NIGEL PHILLIPS

CATALOGUE 49

Rare Books

do habuit in domo: vel ꝑ reuolutionē āni in vndanitijs ſm ꝙ dictat Petrus de Abano in cōſilio ſuo differentia nonageſimatertia. Alie ſunt cāe ꝑticulares que ſūt vapores corrupti ꝑmixti cū aere vſqȝ ad minimas ꝑtes: leuati a terra putrida: vt ē quādo

aeris: vel qn̄ aliq

canepa: ⁊ ſimiles

nō ſepulta: vel ar

cus: ⁊ ſimiles res

quas obmitto bre

¶ Qu

quando aer efficit̄ rabidus ſine aliqua primaꝝ qualitatū firmiter cāndarum. Que hn̄t intātū exiccare mētes hominū ꝙ ⁊ generatiōes: ⁊ vita corrūpunt̄: vt accidit illis athenaꝝ. Sicut a Galieno habet̄ primo de differētijs febriū: de hoc tn̄ hic ſermo nō eſt. Scd̄a eſt mutatio in ſubſtātia ꝓpter cōmixtionē vapoꝝ corruptoꝝ ad minimas ꝑtes ipſius aeris: vnde totū aggregatū dicit̄ corruptū ex mala ꝓprietate reſpectu generatiōis hūane. Et iſta mutatio dicit̄ eē in ſubſtātia: nō qꝛ ſolū ſit in ſubſtātia: ſed in qualitate: ſtat ꝙ aliquādo aliqua mutatio ſit in qualitate: ⁊ ſit pura: tamē ēt ē in ſubſtātia: qꝛ iſta mala ꝓprietas ſequit̄ odio ſubſtātiā accidētis illius aeris: ⁊ iſta eſt de qua loquitur. Et vt pōt cōprehēdi ꝑ ſupradictas auctoritates: ⁊ modo iſto poteſt diffiniri.

¶ Diffinitio proprie peſtilentie.

Peſtilentia ē putrefactio que aduenit aeri ſimilis putredini aque q̄ balneat putridū. Certe aer ſic ingroſſat̄: ⁊ corrūpit̄ ex puluere iſtorū vaporuꝫ maloꝝ ꝑmixtoꝝ: ſicut corrūpit̄ aqua ꝑ appoſitionem lini vel eius ſimile.

¶ Que ſint infirmitates peſtilentiales.

Dico ergo ꝙ ifirmitates peſtilētiales ſūt duplices. ſ. ꝑticulares: ⁊ cōmunes. Particulares ſūt que nō vnomet tpe adueniūt multis. Et tales adueniūt per adminiſtratio-

aquā illius loci vel vētū vt apparet in aliquib⁹ ciuitatibus vł locis in ꝙbus generātur Botia ſub mēto ⁊ in alijs locis timefiunt crura. Quā ponit Galienus in. viij. de iterioribus ꝙ nūꝙ vidit talē īfirmitatē ſicut cōtinet̄ in libro de aere ⁊ aqua.

Alia ē infirmitas

pidimial̄ ab epi

s. Que ſic diffini

n ſubito ⁊ in vno

line hoium: qꝛ ni

ēt diuerſe. Naz

e. aliqbus diſin

tomata. Aliquā

appellat̄ ſubita

ut paulati. Om

ētiā febris peſtilentialis: ⁊ illud ſufficiat ꝑ primo capitulo preſētis tractatus.

¶ Scd̄m capłꝫ in quo cōtinet̄ regimē curatiuuꝫ.

Dicto de pmo reſtat dicere de ſcd̄o videlicet de regimine. Et iſtud debet fieri circa ſex res nō naturales: ⁊ aliquas medicinales. Regularit̄ operādo ꝑ inqſitiōe iſtaꝝ rerum eſt ſciendū ꝙ meo viſu hoies deficiūt tribus mōis. Primo modo ꝑ viā olfatiōis venenoſe que aggredit̄ mēbra pricipalia: ſcꝫ cor: cerebrū: ⁊ epar. Et iſti moriunt̄ cū ſigno peſtilētiali: vꝫ per inflationē: glandulā in emūctorijs illoꝝ mēbroꝝ principaliū. Et tn̄ quādo cor offendit̄ ſignū apparet ſub aſſellis. Et quādo cerebrū poſt aures. Et qn̄ epar in inguibus. ſ. dextro. Et qn̄ in ſplene in inguine ſiniſtro. Et adhuc adueniunt carbūculi in alijs ꝑtibus corꝑis. Et iſtud cōuenit qn̄ eſt maior putrefactio ⁊ aduſtio humoꝝ ad intra corpus quos natura inquātū pōt conat̄ expellere. Ideo qn̄ apparēt carbūculi iuxta mēbra pricipalia: vt ē in pectore indicāt peius. Quia eſt ſignū ꝙ tales humores ſūt aduſti: ⁊ putrefacti circa regiones cordis. Secūdario ē ꝑ viā ſuffocatiōis natural̄ caloris facte a cā humida ⁊ aquoſa putrefactibili. Et certe nos videm⁹ ⁊ vidimus humiditates coadunari in noſtris corꝑibus preſertiꝫ in capite ꝑ quas fiūt apoſtemata in gula: que appellant̄ ſquinātie: ⁊ ex illis moriunt̄. Aliqn̄ deſcēdūt multi catarri qui ſubito ſuffocāt hoies. Aliqn̄ generant̄ multe ſurditates: ⁊ grauedines capitis. Et

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ORDERS AND PAYMENT

- Postage is extra.
- Payment should be made on receipt of the books.
- Payment in sterling is preferred, but may be made in other currencies, or by Visa or Mastercard.

Further illustrations of most of the books in this catalogue can be seen on the website.

Cover illustration from Item 83, Ketham.

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1. **AIKIN, Arthur and Charles Rochemont.** A Dictionary of Chemistry and Mineralogy, with an account of the processes employed in many of the most important chemical manufactures. To which are added a description of chemical apparatus, and various useful tables of weights and measures, chemical instruments, &c. &c. London: Printed for John and Arthur Arch… 1807. [*Bound with:*] An Account of the Most Important Recent Discoveries and Improvements in Chemistry and Mineralogy, to the recent time; being an appendix to their Dictionary of Chemistry and Mineralogy. London: Printed for John and Arthur Arch… 1814.

2 volumes, 4to, pp. (vii), (i), 628; 1 leaf, pp. 580, 1 leaf (errata), 2 leaves, pp. 119, (1) blank, (119)–176, and 15 engraved plates of apparatus plus 1 plate for the appendix. Contemporary calf, single gilt fillet on sides, spines gilt in compartments and with red and green morocco labels (sides a little marked, gilt a bit dull in places on volume 2). In this copy both appendixes (one for each volume) are bound together at the end of volume 2. Some light foxing but a very nice copy. Very small circular stamp of the Assay Office, Birmingham, in lower corner of front endpapers.

£1200

FIRST EDITION. "The aim of the *Dictionary* was to cover the parts of chemistry of interest to the manufacturer and the practical chemist. Much of the history of chemistry is omitted, as are materials relating to medicine, galvanism, etc. Theoretical matters are treated only sketchily except to give the general principles upon which manufacturing processes depend. Some hitherto unpublished material communicated by friends is included…" (Cole 16).

Arthur Aikin studied chemistry under Priestley, and with his guidance made chemistry and mineralogy the chief occupations of his life. He was a founder member of the Geological Society, and for many years secretary to the Society of Arts. He wrote this large dictionary in conjunction with his brother.

2. **ALEMBERT, Jean le Rond d'.** Opuscules Mathématiques, ou mémoires sur différens sujets de géométrie, de méchanique, d'optique, d'astronomie &c. A Paris: Chez David (vols. 3–6, chez Briasson; vols. 7 & 8, Chez Claude-Antoine Jombert)… 1761 (–1780).

8 volumes, 4to, with 30 folding engraved plates. Contemporary sheep-backed boards, flat spines gilt with two green morocco labels, pink marbled sides, vellum tips. Some light foxing but a good set. Bookplate of the Bibliotheca Mechanica in vol. 1, and of David L. DiLaura in each volume.

£6500

First edition of the valuable and important collection of 58 of d'Alembert's most notable memoirs on mathematical, astronomical, optical and mechanical subjects which he contributed to the Paris and Berlin Academies after 1760. They include many new solutions to problems he had previously attempted. It is the best collection of his mathematical articles that exists, and includes his extensive writings on optics between 1760 and 1770, virtually all of which were devoted to the theory of lenses.

DiLaura, *Bibliotheca Opticoria*, 454. Despite the bookplate this does not appear in Roberts & Trent, *Bibliotheca mechanica*.

Leading Authority on Aristotle

3. **ALEXANDER OF APHRODISIAS.** Enarratio de Anima ex Aristotelis institutione. Interprete Hieronymo Donato. [Colophon:] Impressum Brixiae [Brescia]: ...Bernardini de Misintis…13 September 1495.

8vo, 91 unnumbered leaves (of 92, lacking the initial blank). Title taken from incipit on f. a5, woodcut initial on a2, capital spaces with guide letters. Upper outer corners of first 6 leaves neatly restored, several gatherings lightly browned, some small stains on the first and last few leaves. Early vellum (rather marked and stained, endpapers sometime replaced), long inscription in Italian pasted to front pastedown about Pomponazzi and his use of Alexander's text. Some short early marginal notes (some cropped); bookplate of David L. DiLaura.

£15,000

continued...

FIRST EDITION of the highly influential commentary on Aristotle's *De Anima* (On the Soul) by Alexander of Aphrodisias, a Peripatetic philosopher of the second-third century whose fame rests mainly on his interpretation of Aristotle's doctrines, earning him the sobriquet of 'the interpreter'. The object of his work was to free the doctrine from the syncretism of Ammonius and to reproduce the pure doctrine of Aristotle. It is here translated into Latin for the first time by Girolamo Donato (1457–1511), which gave it a much wider readership but at the same time gave rise to controversy among Renaissance scholars and theologians as Alexander argued for the impossibility of immortality of the human soul.

As the soul is inseparable from the body (and therefore not immortal) much of the later part of the work includes chapters on the senses (*De Auditu, De Olfacto, De Gustu,* etc.). Aristotle dissected the ear in many animals, and described its anatomy, as well as the anatomy of the nose and throat. Alexander advances and describes Aristotle's theory of light and vision, setting out the full process of vision and in so doing applies geometrical optics to Aristotlean theory for the first time.

"He was, of course, not the first commentator on Aristotle. But posterior exegetes certainly treated as exemplary his method and his standards for explaining problems and obscurities in Aristotle's texts. This is indicated both by explicit references in later commentators and by the unacknowledged exploitation of his work in some extant later commentaries on the same texts. As the translations of his work into Arabic and, to a lesser degree, into Latin show, he continued to be treated as a leading authority and his work influenced the Aristotelian tradition throughout late antiquity, the Middle Ages, and in the Renaissance. Scholars nowadays continue to make use of his commentaries, not only for historical reasons but also because his suggestions are often worth considering in their own right" (*Stanford Encyclopedia of Philosophy*).

Klebs 45.1. DiLaura, *Bibliotheca Opticoria*, 5. Stevenson & Guthrie, *A history of oto-laryngology,* pp. 14–15.

4. ALGHISI, Tommaso. Litotomia ovvero del cavar la pietra... In Firenze: Nella Stamper. di Giuseppe Manni,... 1707.

Small folio, pp. 24, CX, (1) licence, and 16 fine engraved plates. Half-title, engraved vignette on title by Cosimo Mogalli, some fine and large woodcut ornaments. Contemporary sheep, ends of spine and corners repaired, no free endpapers. A few small marks but generally an excellent copy.

£1800

FIRST EDITION of one of the finest books on urology, with respect to both printing and illustration, and one of the best early books on lithotomy. Alghisi, a native of Florence, was probably the first to use an indwelling urethral catheter to drain urine away from the wound after lithotomy. The fact that he advocated the inclined position of the patient with his head raised led to its general adoption.

See Murphy, *The history of urology,* p. 100, (illustrating plate XVI). Kiefer catalogue 12.

The Most Influential Book on Optics Ever Produced

5. ALHAZEN. Opticae Thesaurus…libri septem, nunc primùm editi. Eiusdem liber De Crepusculis & Nubium ascensionibus. Item Vitellonis …Libri X. Omnes instaurati, figuris illustrati & aucti, adiectis etiam in Alhazenum commentarius, a' Federico Risner. Basileae [Basle]: per Episcopios. 1572.

2 parts in 1 volume, folio, 4 leaves (the last blank), 288 pages; 4 leaves, 474 pages, 1 leaf (blank but for printer's device on verso). Woodcut device on title, woodcut on verso (repeated on the separate title-page to second part by Witelo), 4 woodcuts in the text (including one of the eye and one repeated from the first part) and numerous diagrams. Paper lightly foxed and pale dampstains in outer corners of last 50 leaves, otherwise a fine and clean copy. 18th century calf-backed boards (rebacked with the original spine laid down, corners renewed).

£95,000

FIRST EDITION of "the most influential optics book ever produced" (DiLaura). It "synthesized, clarified and augmented all previous work on vision, perception, reflection, and refraction of light. It gave a new intromission theory of vision, elaborated a theory of visual perception, described apparatus and procedures for measuring geometric optical properties of reflection and refraction, and presented an elaborate analysis of plane and curved mirrors" (*ibid*).

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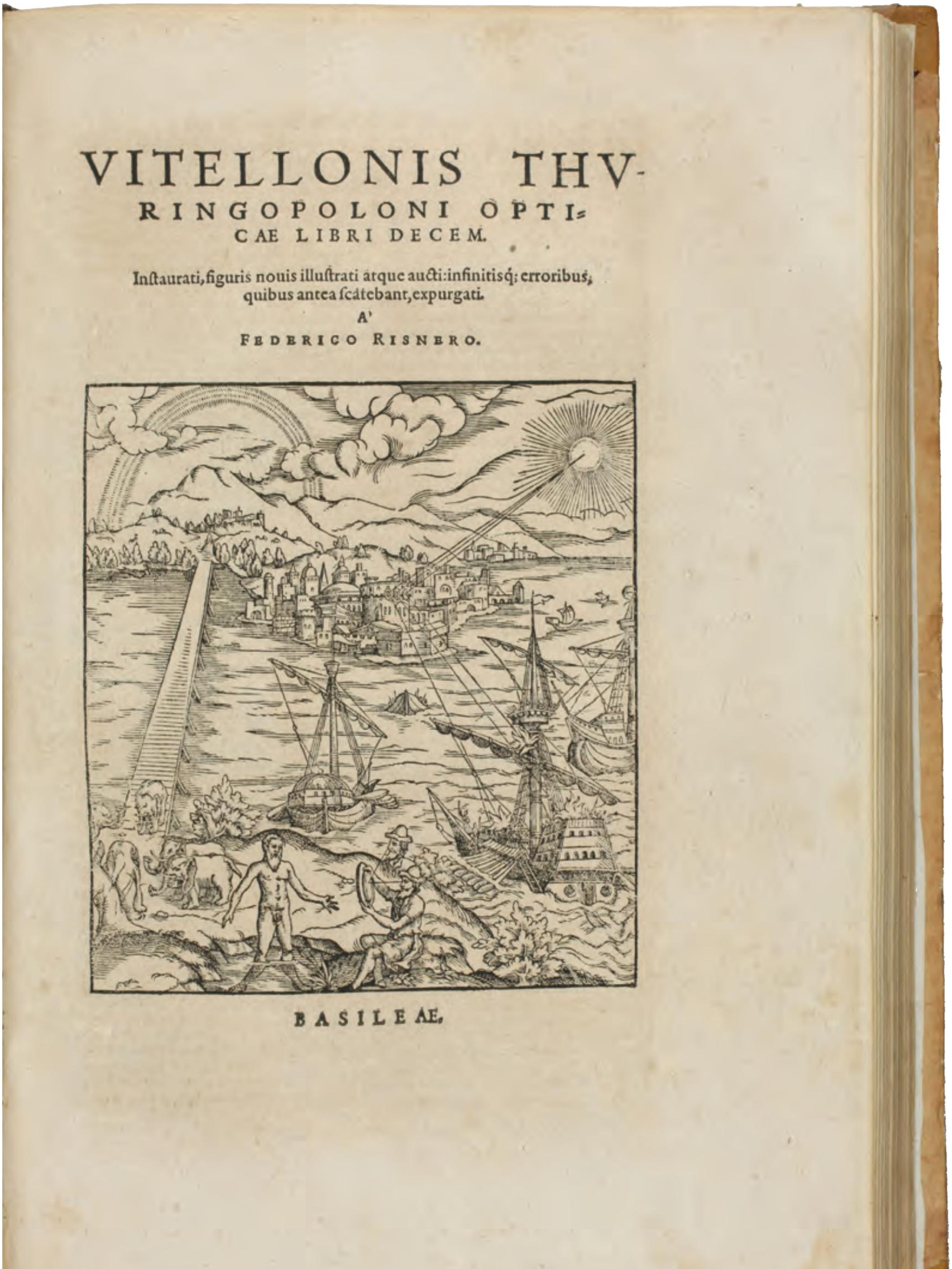


VITELLONIS THVRINGOPOLONI OPTICAE LIBRI DECEM.

Inſtaurati, figuris nouis illuſtrati atque aucti: infinitisq; erroribus, quibus antea ſcatebant, expurgati.

A'

FEDERICO RISNERO.

BASILEAE.

5. Alhazen

Written in 1028–1038 by the Egyptian Arabic scholar Ibn al-Haytham (Alhazen), the work was tranlated into Latin no later than 1200 as *De Aspectibus*. "The influence of Alhacen's *De Aspectibus* was profound. Between the time of its appearance and about 1400, virtually every optics text in the Latin West either cited it explicitly or bore its influence, and all were derivative, smaller in scope, and shorter in length. By 1325 it was in use at universities. Optics texts from the advent of printing until the end of the 17th century all show the influence of the *De Aspectibus.* The greatest opticians of the age read and learned from Risner's *Opticae Thesaurus*; Thomas Hariot, Johannes Kepler, Willebrord Snell, and René Descartes all cited the work. 100 years after its publication, Isaac Barrow cited the work in his *Lectiones Opticae et Geometricae* of 1674. The *Opticae Thesaurus* swept the field of optics, being considered by contemporaries to treat all of the then-current optics and becoming the foremost advanced optics text of the Renaissance" (*ibid*).

The second part is the "Ten Books of Optics" by the 13th-century Polish scholar Witelo, the earliest treatise on optics written by a European, first published in 1535. It was a redaction and augmentation of Alhazen's *De Aspectibus*, and the most-used advanced text on optics in the Middle Ages.

DiLaura, *Bibliotheca Opticoria*, 30 and 31 for a full discussion of these works; also *DSB*. Dibner 138. Norman catalogue 1027.

6. AMAND, Pierre. Nouvelles Observations sur la Pratique des Accouchemens, avec la maniere de se servier d'une nouvelle machine, tres-commode & facile, pour tirer promptement & surement, la tête de l'enfant, separée de son corps, & restée seule dans la matrice, sans se servir d'aucuns instrumens trenchans, ou piquans, qui puissent exposer la mere à aucun danger. Seconde edition. Corrigée & augmentée de la figure du tire-tête… A Paris: Chez Laurent D'Houry… 1715.

8vo, pp. (xvi), 246, 247*–256*, 247–430, engraved frontispiece portrait by de Rochefort dated 1713 and 2 folding engraved plates also by de Rochefort dated 1715. Leaves Qi–Qiii are unsigned. Paper very lightly browned. Contemporary red morocco, spine with raised bands and richly gilt in compartments (beautifully and almost undetectably restored or rebacked), brown morocco label, sides with triple gilt fillet and gilt corner pieces, inner gilt dentelles, gilt edges over marbling, marbled endpapers. With the arms of Henri François d'Aguesseau (1668–1751), Chancellor of France, on sides.

£950

Second edition, in the year after the first, of a rare obstetric work derived largely from actual cases. The text is probably a reprint of the text of the first edition but with the addition of the two folding plates and the starred leaves, which include two letters from Dr. Isouard and the approbation of Dr. Verney. Amand (d. 1720) invented a device, which is illustrated in the two plates, in response to one particularly dreaded complication, that of extracting a head that had been separated from the foetus.

7. AMMON, Friedrich August von, & Moritz BAUMGARTEN. Die Plastische Chirurgie nach ihren bisherigen Leistungen kritisch dargestellt. Eine von der Medizinischen Gesellschaft zu Gent gekrönte Preisschrift. Berlin: Verlag von G. Reimer, 1842.

8vo, pp. xxvi, 310. With the half-title showing the medal awarded to the authors. Contemporary half green cloth and marbled boards. Paper very slightly browned, spine and edges of boards slightly rubbed, otherwise an excellent copy. Old shelf label on upper board and front pastedown.

£1800

FIRST EDITION. G&M 5744. The first critical review of the new field of plastic surgery, and the second comprehensive work on the subject, preceded only by Zeis's *Handbuch* of 1838 (G&M 5743.4). Ammon "exercised a tremendous influence on the plastic surgery of his time. His friendship with Dieffenbach induced him to make great contributions to plastic surgery, both through his critical reports and his publication of new methods, especially for the areas of the lips and lids" (Gabka & Vaubel, *Plastic surgery past and present*, p. 134). Ammon was in fact Zeis's teacher, and

continued...

was influential in his approach to plastic surgery. Zeis reports on Ammon's operations in several chapters of his *Handbuch*, and in his bibliography he praised Ammon's work on the physiology of transplanted tissue. Ammon is best known in the field of ophthalmology for his great atlas of the pathology of the eye. He took a special interest in ophthalmic plastic surgery and gives a full account of blepharoplasty and canthoplasty in this book.

Zeis Index 463 and p. 463. Becker catalogue 15. Albert, Norton & Hurtes 58.

8. ARISTOTLE. Habes…in hoc codice libros Metheorum…cum commentariis … Gaietani de Thienis noviter i[m]pressos: ac mendis erroribusque purgatos. Tractatum de reactione. Et tractatum de intensione & remissione eiusdem Gaietani. Quaestiones… Thimon super quattuor libros Metheorum. [Colophon:] Venetiis [Venice]: heredeum… Octaviani Scoti…per …Bonetum Locatellum… December 1507.

Folio, 70, 61 [i.e. 55] leaves (last leaf misnumbered). Printed in double columns, Gothic type, woodcut initials, woodcut diagrams in the text, publisher's device at foot of last page. Some small marks but a nice copy. Blind-ruled doeskin antique, unlettered. Bookplate of David L. DiLaura.

£6750

An early edition of Aristotle's *Meteorologica*, edited and with the extensive commentary of Gaetano de Thiene (1387–1465), of Vicenza, and with the *Quaestiones* of Themon of Judaea (fl. 1349–1361).

The first three Books of the *Meteorologica* contain the first systematic discussion of weather phenomena, as well as astronomical observations including comets, shooting stars, and the Milky Way. Book IV is one of the main sources of medieval geology (Stillwell, note to 577), and contains much material of chemical interest. Aristotle describes here the nature of heat and combustion, the effects that heat and cold have on matter, and the nature of many metals including gold, silver, copper, etc.

The *Quaestiones* by Themon of Judaea includes a consideration of the optical issues raised in the *Meteorologica*, in particular of the theory of vision, the rainbow, and halos. Many of his ideas are also "found in the MSS of Leonardo da Vinci and his treatise *Del moto e misura dell' acqua.* It is quite possible that Leonardo consulted Themon's commentaries and made use of them" (Sarton, III, part II, p. 1540).

Partington I, pp. 69–109. DiLaura, *Bibliotheca Opticoria,* 10. See Stillwell, *The awakening interest in science,* 577 and 735 for earlier editions of the *Meteorologica*. Gaetano's commentary was first printed in the Venice, 1491 edition of Aristotle.

9. [ARKWRIGHT, Richard.] The Trial of a Cause instituted by Richard Pepper Ardern, Esq; his Majesty's Attorney General, by writ of Sciere Facias, to repeal a Patent granted on the sixteenth of December 1775, to Mr. Richard Arkwright, for an invention of certain instruments and machines for preparing silk, cotton, flax, and wool for spinning… London: Printed for Hughes and Walsh… 1785.

Folio, 191 pages, large folding engraved frontispiece with detailed drawings of machine parts. Original boards (neatly rebacked), uncut. Offsetting on the frontispiece and lower margin of title and a tear in the engraved area repaired from behind without loss, foxing on the endpapers, binding worn but the text very clean.
Provenance: contemporary signature of W. Henton at top of title; Kinsham Court, later home of the Arkwright family (sale at Bonhams, London, 12th October 2022).

£1400

FIRST EDITION. The principal contemporary printed source for one of the most important figures of the Industrial Revolution.

Richard Arkwright revolutionised the textile industry with a series of machines that completely mechanised the process of cotton spinning, and replaced the use of domestic hand labour with the factory system. In 1769 he patented his spinning machine and in 1771 he built the first mechanised spinning mill at Cromford, using water to power it. He then proceeded to mechanise the preparatory processes of carding and drawing, running the machinery off the original spinning frame and taking out a further patent in 1775. "While each separate machine was in itself a

continued...

remarkable trial of inventive skill, the construction of the whole series, and the adaptation of each to its individual function in the continuous succession of operations, must be regarded as an almost unique achievement in the history of invention" (*DNB*).

However, these developments were not achieved without considerable difficulties and opposition from other textile manufacturers. In 1781 Arkwright successfully sued nine firms for infringement and in 1785 won a further case validating his 1775 patent. Since by then there were about 30,000 infringements, several manufacturers grouped together and obtained a writ for a new trial to repeal the patent. The present book is a verbatim report of the trial proceedings. Arkwright lost the case, but his achievement of changing the cotton industry from domestic production to a mechanised industry has never been in doubt.

The Causes of Fires

10. ASSOCIATION OF ARCHITECTS. Resolutions of the Associated Architects; with the Report of a Committee by them appointed to consider the causes of the frequent Fires, and the best means of preventing the like in future. [No place, printer or date; London: Society of Architects, 1793.]

8vo, pp. (iv), iii, (4)–31. Original wrappers (spine torn and worn), uncut and largely unopened.

£250

FIRST EDITION. The Association of Architects in London was formed in 1792 for the purpose of examining the cause of the frequent house fires, which spread rapidly as the floors were wooden and party walls were usually made of lath and plaster. The Association's recommendation was the extensive use of plaster as a bedding for the floors in upper storeys, which would be an efficient retardant. This method was adopted in the repairs carried out to the numerous properties owned by the Duke of Bedford.

11. AUSTIN, William. A Treatise on the Origin and Component Parts of the Stone in the Urinary Bladder. Being the substance of the Gulstonian Lectures, read at the College of Physicians in the year 1790. London: Printed by W. Bulmer and Co. for G. Nicol… 1791.

8vo, 2 leaves, 123 pages, 1 leaf (errata). Near-contemporary red half morocco, blue paper sides, marbled endpapers. A few small marks on the binding but a very clean copy with wide margins. Armorial bookplate of Kinnaird on front pastedown; also of Peter Isaac, one of the foremost scholars of the English provincial book trade.

£240

SOLE EDITION. Austin's conclusions on the origin of bladder stones were later shown to be incorrect. "However, Austin was able correctly to identify how hard deposits in the body are composed. He also correctly observed that the hard matter found in old people's arteries is calcareous, whereas the white substance covering the surface of gouty joints is not. His final remark on lithotomy caused his surgical colleague, Sir James Earle, to write a defence of the operation" (*ODNB*).

Kiefer catalogue, 29. Peter Isaac, *William Bulmer, the fine printer in context*, no. 33.

12. BARBA, Alvaro Alonso, Gabriel PLATTES and **Thomas HOUGHTON.** A Collection of Scarce and Valuable Treatises, upon Metals, Mines, and Minerals. Containing, I. Curious observations on mines… VI. The art of dyalling, or levelling grooves… Being a translation from the learned Albaro Alonso Barba… London: Printed for James Hodges… 1739.

4 parts in 1 volume, 12mo, pp. (xii), 170, (ix), (172)–215, (1) blank, (iv), 66, (2) advertisements, 1 engraved plate at p. 169. Separate title-pages to parts II–IV, 1 full-page illustration in the last part, woodcut headpieces and initials. Contemporary mottled calf, unlettered, upper joint cracking at head and foot. Faint dampstain in lower margin and on rear endpapers, otherwise a fine and clean copy.

£2200

FIRST EDITION, second issue, of this collection of important treatises on mining and metallurgy, incorporating the third edition in English of Barba's *The Art of Metals*, the fifth edition of Gabriel

continued...

Plattes' *A Discovery of Subterraneall Treasure*, and the sixth edition of Thomas Houghton's *Rara Avis in Terris, or the Compleat Miner.* They were collected and published together because of the rarity of the original editions and the lack of other good works on the subject.

Barba's book, first published in Spanish in 1640 and in English in 1670, was a celebrated treatise on mining and metallurgy, the first significant work on the subject in Spanish, and the first work on mining in the Americas. Gabriel Plattes' *Discovery of Subterraneall Treasure*, first published in 1639, was the first useful text in English dealing with metallurgy, and includes the earliest description in English of the separation of gold and silver by the use of nitric acid. Houghton's work, first published in 1681, was the first English work on lead mining. It contains the laws and customs of the Derbyshire lead mines and explains the terms used by miners.

This second and rarer issue has a cancel title with different wording and imprint; the sheets were perhaps sold to James Hodges who issued it with a new title-page which has his advertisements on the verso although the final advertisement leaf is the original. Ferguson I, p. 170 (the second edition of 1740). Hoover catalogue 225 and Neville I, p. 73 (both first issue).

13. BARROW, Isaac (*editor*). Archimedis Opera: Appollonii Pergaei Conicorum libri III. Theodosii Sphaerica: methodo nova illustrata, & succinctè demonstrata. Per Is. Barrow… Accedunt ejusdem Lectiones Opticae, & Geometricae. Londini: Excudebat Guil. Godbid, voeneunt apud Rob. Scott… 1675.

2 works in 1 volume with a general title-page: The first work (Archimedes) in 3 parts, with 29 folding plates. Three leaves misbound. Lacking the leaf "Brevitatis gratia", an explanation of mathematical symbols, which is rarely found and has clearly been excised in this copy. Tear in second L3 without loss. The second work (Barrow) in 2 parts, with 28 folding plates including one misbound in the Archimedes. The single leaf at the beginning of part 2, "Benevolo lectori", was intended to be cancelled but is retained in this copy. Separate title-pages to each work (the second dated 1674). Light spotting and paper lightly browned. Contemporary calf (edges worn and chipped, rebacked and corners repaired, spine lettered in blind).

£4500

A rare collected issue of (1) the first edition of Barrow's versions of, and commentaries on, the *Sphere & Cylinder* of Archimedes, the *Conics* of Apollonius, and the *Spherics* of Theodosius, expanded from his Lucasian lectures of 1666, and (2) a reissue of Barrow's *Lectiones XVIII* (1669) and *Lectiones geometricae* (1670).

Barrow would have nothing to do with the printing of his lectures, and were it not for the persistence of John Collins, the optical and geometrical lectures might have remained unpublished, but they appeared edited by Collins, with revisions and corrections by Isaac Newton. Barrow's optical lectures "formed the most advanced treatise on geometrical optics then available and would form the basis and beginning point for Newton's own, later Optical Lectures… The analysis throughout is detailed, elaborately geometrical, and tediously complete" (DiLaura).

Apparently not in Wing or ESTC. Archimedes: Wing A3621 and ESTC R6704. Wing does not distinguish between this issue with the general title-page and the issue containing the Archimedes alone; ESTC R6704 gives the collation for parts 1–3 only, without the Barrow; most of the many holdings listed in ESTC are probably therefore the Archimedes alone. Barrow: Wing B945 and ESTC R3609 (parts 4 and 5). DiLaura, *Bibliotheca Opticoria,* 161.

The Encyclopaedia of the Middle Ages

14. BARTHOLOMAEUS ANGLICUS. De Proprietatibus Rerum. [Colophon:] Nuremberg: Anton Koberger, 1483.

Folio (315 x 220 mm), 264 leaves (of 268, lacking leaves 7, 170, 171 and 243). Printed in double columns, unsigned and unpaginated, 53 lines plus headline, initial capital letters supplied in red or blue throughout, chapter headings rubricated, tabs on fore-edge at beginning of each Book. Part of initial and final blank leaves missing, some dampstaining (worse in first 30 leaves). Contemporary bindstamped calf over wooden boards (surface crazed, worn at head and tail of spine and over raised

continued...

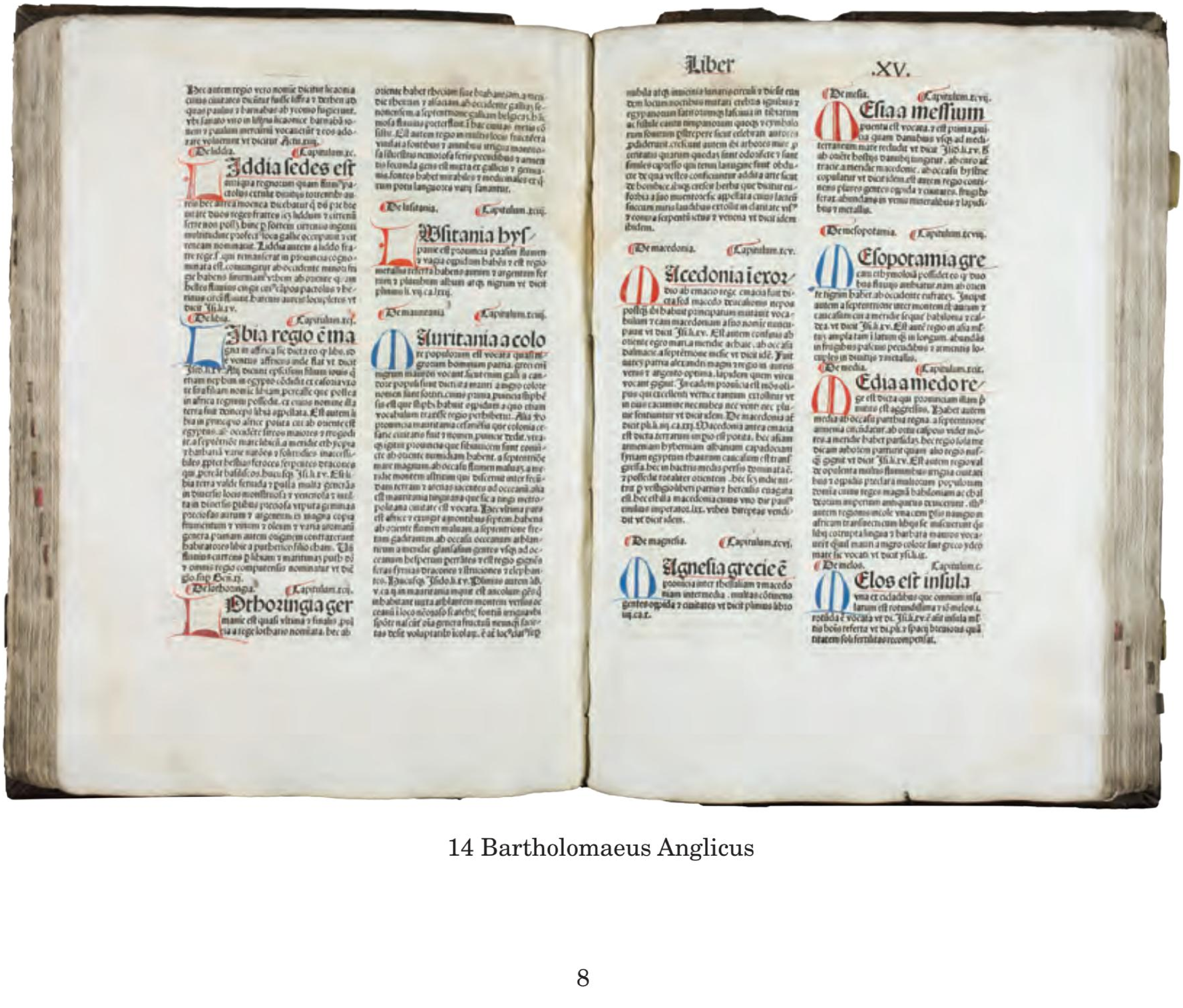
bands), 5 brass bosses on each cover, corners reinforced with brass, brass clasps (but missing pigskin straps), vellum endpapers (pastedowns from an earlier manuscript, missing rear free endpaper).

£10,500

The first important encyclopedia of all the sciences of the Middle Ages, which by its wide dissemination over three centuries had a profound influence of medieval thought. It is "still important for its information on political geography and its accounts of natural history" (Stillwell). Divided into nineteen books, the contents are as follows: "(1) God; (2) angels and demons; (3) psychology; (4–5) physiology; (6) family life, domestic economy; (7) medicine; (8) cosmology, astrology; (9) time divisions; (10) form and matter, elements; (11) air, meteorology; (12) flying creatures; (13) waters and fishes, dolphins, whales; (14) physical geography; (15) political geography, (in 175 chapters; this contains a number of interesting remarks, notes on economic geography, etc.); (16) gems, minerals, metals; (17) trees and herbs; (18) animals; (19) color, odor, savor; food and drink, eggs; weights and measures; musical instruments" (Sarton, II, p. 586). "Book 16 contains 104 short chapters on as many mineral substances as earths, stone, ores, metals, salts, etc., as well as gemstones, the latter often given names that now defy identification of the materials concerned. Gemstones are alabaster, adamante, amethyst, agate, alabandina, beryl, carbuncle, chrysoprase, chalcedony, chrysolite, rock crystal, coral carnelian, hematite, heliotrope, jet, jasper, hyacinth, pearl, marble, onyx, opal, prase, sapphire, emerald, sard, sardonyx, topaz, turquoise; very brief descriptions with comments on curious or medicinal lore associated with each" (Sinkankas, *Gemology*, p. 70).

Although lacking four leaves, this is a fine example of fifteenth-century book making, entirely contemporary and original.

Klebs 149.8. Stillwell, *The Awakening Interest in Science during the First Century of Printing 1450-1550*, p. 186. DiLaura, *Bibliotheca Opticoria,* 3. Simon, *Bibliotheca Bacchica,* 19b. Simon, *Bibliotheca Gastronomica,* 173. Thorndike, II, pp. 401–435. Sarton, *Introduction to the History of Science,* II, pp. 586–587.



14 Bartholomaeus Anglicus

An Extremely Curious Volume

15. **BATE, John.** The Mysteryes of Nature and Art: conteined in foure severall tretises, the first of Water Workes The second of Fyer workes, the third of Drawing, Colouring, Painting and Engraving, The fourth of divers experiments, as wel serviceable as delightful: partly collected, and partly of the authors peculiar practice, and invention. Imprinted at London for Ralph Mab and are to be sold by John Jackson and Francis Church… 1634.

4to, 5 leaves (including the engraved title), pp. 112, (16), 121–142, (3), 150–192, (2) blank, 1 woodcut plate at p. 15. Fine engraved title-page with representations of the various parts of the book, separate title-pages to parts 2 to 4 with woodcut vignettes, numerous woodcuts in the text (some full-page). Contemporary speckled sheep (old repair to foot of spine and one lower corner, joints and leather of spine cracked, top of spine worn). Apart from the wear to the spine (which is mostly original) and a faint dampstain in the last part, a nice, clean copy.
Provenance: signature of Thomas Willoughby, FRS, in upper margin of title, with his shelf-mark, a price on the facing endpaper and notes on the final blank leaf possibly in his hand; old bookseller's description on front pastedown; bookplate of Leonard Harrison Matthews.

£6750

FIRST EDITION of the first comprehensive illustrated English book on waterworks and hydraulic machinery. It also includes sections on fireworks and incendiary devices, on drawing, painting, and engraving, and on remedies and recipes.

The first part describes and illustrates all sorts of hydraulic machinery, including water clocks, and devices for drawing water by compressed air, evacuated air, and by steam — bearing in mind the early date of the book, the descriptions of engines driven by steam are of great technological interest. As a young man Newton neglected his school work as he spent so much time making mechanical contrivances, many of which he found in a copy of this book and made notes of them. (See Westfall, *Never at Rest,* p. 61).

There is much of chemical interest in the book, particularly in the second section, on pyrotechny, which gives minute directions about the materials and various kinds of fireworks. The third book is concerned with drawing and painting, and an account is given of both mediums and colours. The fourth book is a collection of miscellaneous secrets relating chiefly to metals with some medical receipts at the end.

"All the editions, more particularly the first and third, are moderately rare, and are not readily procurable in really nice state… It is not an absolute rarity, but on account of its contents and illustrations and the difficulty of getting it in perfect condition, it commands a certain amount of attention" (Ferguson).

STC 1577. Ferguson, …*Books of Secrets*, 4th Supplement, pp. 10–12. Neville, I, p. 93 (1654 edition). Philip, *Firework books*, 18. Not in Krivatsy (or the NLM online) which has the second and third editions.

16. **BATEMAN, John Frederic La Trobe.** History and Description of the Manchester Waterworks. Manchester: T.J. Day… London: E. & F.N. Spon… 1884.

Large 4to, pp. xii, 291, (1) blank, iii, (1) blank, 2 lithographed portraits of Bateman (in 1859 and 1884) and 57 detailed plates, mostly folding or double-page, including maps, charts and technical drawings. Original dark green pebbled cloth, bevelled edges, lettered in gilt on spine and upper cover (a few minor marks, the spine dull and with two small nicks at head), red edges. Foxing on endpapers, some spotting on first leaves and dampstain in lower corner (but really only apparent on the two portraits and two tissue guards), otherwise very clean. Presentation copy to a member of the waterworks committee by the chairman, with inscription on front free endpaper.

£350

SOLE EDITION of this imposing volume, which is by far the principal work of John Bateman (1810–1889), civil engineer, "whose output forms the basis of the modern UK water supply industry" (*ODNB*).

As a young man Bateman worked in Ireland with William Fairbairn, whose daughter he married, but thereafter "Bateman was almost continuously employed in the construction of

continued...

reservoirs and waterworks, the greatest of which was the system that supplied Manchester with much of its water during the nineteenth century. His first involvement was in 1844 when he was consulted about the supply of water to Manchester and Salford. In 1846, despite the current theory that rainfall decreased with altitude, the idea was proposed of obtaining water from the Pennines. The works in Longdendale were started in 1848 and were finished in the spring of 1877, with the Woodhead Reservoir being one of the first to be started but the last to be finished: the scheme was then the largest in Europe. As the Longdendale scheme approached completion it became clear that additional sources of supply must be obtained because demand for water had risen due to increased population and consumption per head. At Bateman's suggestion, the corporation decided to construct new works at Lake Thirlmere" (*ibid*). At the time these reservoirs were the largest in the world and have never run dry.

The extremely detailed plates include maps, charts, sections of reservoirs, and scale drawings of pumping machinery, sluices, tunnels, valves, etc. etc.

Radioactivity

17. BECQUEREL, [Antoine] Henri. Recherches sur une Propriété Nouvelle de la Matière. Activité radiante spontanée ou radioactivité de la matière. [In:] Mémoires de l'Académie des Sciences, vol. 46. Paris: Typographie de Firmin-Didot et Cie., 1903.

4to, 2 leaves, 360 pages, 2 leaves, and 71 illustrations on 13 collotype plates. Modern full brown morocco by Aquarius, sides panelled in gilt, spine with raised bands and panelled in gilt, inner gilt dentelles, t.e.g., other edges uncut, original wrappers bound in at end, cloth slipcase. Rowland Lloyd Morgan in gilt panel on upper cover. Half-title and verso of last plate browned, but a fine copy.

£1500

FIRST EDITION of Becquerel's highly important account of investigations into radioactivity. This 'paper', which occupies the entire volume, was his definitive work.

"The discovery of X rays stimulated interest in a group of elements known to emit spontaneously some kind of phosphorescence or rays of energy. In 1896 Antoine Henri Becquerel, French physicist, found that metallic uranium darkens photographic plates and concluded that uranium emits radiation similar to X rays. As a result of his experiments summarized in *Recherches sur une propriété nouvelle de la matière* (1903), Becquerel discovered the principle of radioactivity. In that year he shared the Nobel Prize for physics with the Curies" (Sparrow).

Printing and the Mind of Man 303. Dibner, *Heralds of Science*, 163. Sparrow, *Milestones of Science*, p. 46 and plate 201. Partington, IV, p. 936. This is a copy in a particularly fine modern binding.

18. BEDDOES, Thomas. Observations on the nature and cure of calculus, sea scurvy, consumption, catarrh, and fever: together with conjectures upon several other subjects of physiology and pathology. London: Printed for J. Murray… 1793.

8vo, pp. xvi, 278, (2) errata and advertisement. Contemporary half calf, spine gilt with red morocco label. Short (2 cm.) crack at top of upper joint, small wormtrack in upper and lower corners of front endpapers and first dozen leaves, otherwise a nice copy. Bookplate on front pastedown of John Yudkin (1910–1995), professor of nutrition.

£400

FIRST EDITION. The observations on scurvy are made principally from a chemical point of view — Beddoes was an admirer of Lavoisier and Priestley, whose views he promulgates in this book. He considered the lack of oxygen a principal cause of scurvy. This book includes a translation of two memoirs by Girtanner on irritability, and observations on animal electricity, oxygen, etc. See Carpenter, *The history of scurvy and vitamin C*, pp. 89–90.

First Self-Righting Lifeboat

19. BEECHING, James, & Sons. Description of Beeching's Northumberland Prize Life Boat designed and built by Beeching and Sons, boat-builders, &c., Great Yarmouth. Yarmouth: Printed by L.A. Meall… 1852.

continued...

8vo, pp. 18, (2) blank, lithographed frontispiece. 19th century pebbled maroon cloth, unlettered, original blue printed wrappers bound in. Two pale dampstains on the frontispiece, wrappers a little worn and marked, otherwise a very good copy.

£850

SOLE EDITION. The first self-righting lifeboat to go into production, and the basis for all lifeboats thereafter.

"In 1851, Britain's Royal National Lifeboat Institution advertised a 100-guinea prize for a self-emptying, self-righting boat. The prize was won by James Beeching of Great Yarmouth, whose design became the standard lifeboat in Britain until the introduction of motor lifeboats in 1909" (*The inventions that changed the world*, 1982). It was called the Northumberland lifeboat because the Duke of Northumberland put up the money for the reward following the loss by drowning of twenty of the best pilots on the Tyne in 1849. There were thirty designs in the competition, which Beeching's won by 84 points to 78.

Very rare, with no copy recorded by COPAC, although the dedication copy could be in the library of the Duke of Northumberland at Alnwick. The frontispiece shows Beeching's lifeboat and a pilot gig approaching a ship in a storm. This appears to be the only contemporary book on the subject although a technical drawing is included the committee's report of 1851.

First Comprehensive Book on Metallurgy and Associated Technologies

20. BIRINGUCCIO, Vannuccio. Pirotechnia. Li diece libri della Pirotechnia, nelliquali si tratta non solo la diversita delle minere, ma ancho quanto si ricerca alla prattica di esse: e di quanto s'appartiene all'arte della fusione over getto de metalli, d'ogni altra cosa a questa somigliante. [Colophon:] In Vinegia [Venice]: per Giovan Padoana, a instantia di Curtio di Navo, 1550.

4to, ff. (viii), 167, (1). Title within ornate woodcut border depicting working apparatus, printer's handsome woodcut device on recto of last leaf, numerous pictorial woodcuts in the text. Small stain in lower inner corners only occasionally encroaching on the text, otherwise a very clean copy. Eighteenth century marbled boards (ends of spine slightly rubbed), red lettering label and paper shelf label on spine.

£9500

Second edition of the only printed work to cover the whole field of metallurgy as known at that time, and the first comprehensive account of the fire-using arts.

This work is the fruit of Biringuccio's actual experience, and embraces virtually the whole field of technology. It is divided into ten books, which deal with (1) metallic ores; (2) the "semi-minerals" (including mercury, sulphur, gems and glass); (3) assaying and preparing ores for smelting; (4) the parting of gold and silver, both with nitric acid, and with antimony sulfide or sulphur; (5) alloys of gold, silver, copper, lead, and tin; (6) the art of casting large statues and guns; (7) furnaces and methods of melting metals; (8) the making of small castings; (9) miscellaneous pyrotechnical operations, including alchemy, distillation, smithing and pottery; and (10) the making of saltpetre, gunpowder and fireworks. "Virtually all of Biringuccio's descriptions are original. He is important in art history for his description of the peculiarly Renaissance arts of casting medallions, statues, statuettes, and bells. His account of typecasting, given in considerable detail, is the earliest known. The *Pirotechnia* contains eighty-three woodcuts, the most useful being those depicting furnaces for distillation, bellows mechanisms, and devices for boring cannon and drawing wire...

"[It] is a prime source on many practical aspects of inorganic chemistry... Biringuccio's approach is in strong conflict with that of the alchemists, whose work he evaluates in eleven pages of almost modern criticism, distinguishing their practical achievements from their theoretical motivations...

"Biringuccio has been called one of the principal exponents of the experimental method..." (*DSB*).

This is Biringuccio's only published book and the sole source for his work. This second edition is typographically superior to the first edition of 1540 according to Smith & Gnudi, the translators of the English edition (1942).

Hoover catalogue 130. Duveen p. 79. See Dibner 38; Parkinson, *Breakthroughs*, 1540; Stillwell, *The awakening interest in science*, VI, 827. Partington, II, pp. 32–37. Singer, *History of technology,* III, p. 27, etc. Cockle, *Military books*, 931.

21. **BISHOP, John**. On the Causes and Treatment of Impediments of Speech; including the theory of articulate sounds, and on the construction of hearing and speaking instruments. London: John Churchill… 1856

8vo, pp. v, (i) blank, (3)–18, (vii)–viii (contents), [9]–79, (1), lithographed frontispiece, + Churchill's 32-page catalogue at the end. Title is a cancel. Original brown cloth (a little rubbed and damp-marked, foot of spine worn and small nick in fore-edge of lower cover).

£180

First edition under this title, but this book is a reissue of his *On articulate sounds: and on the causes and cure of impediments of speech* (1851) with a cancel title and the addition of the 18-page essay on speaking instruments at the beginning. It was considered remarkable for its careful examinations and for the mathematical demonstrations given of each theory advanced (*ODNB*). Bishop was a distinguished surgeon, being a member of the Royal College of Surgeons, president of the Medical Society of London, and a fellow of the Royal Society.

This title is surprisingly rare, with only two copies recorded in COPAC.

22. **BRADSHAW, George.** Map & Sections of the Railways of Great Britain. Dedicated by permission to James Walker, F.R.S., L. & E… Manchester: Published…by G. Bradshaw… 1st. Mo: 14 [i.e. 14th January], 1839 [but 1842].

Engraved map, 165 x 102 cm. overall, hand coloured, with 37 gradient profiles and inset map of London, dissected and mounted on linen edged in green. In a burgundy straight-grained morocco slipcase fashioned as a book (spine neatly repaired), blindstamped panels and gilt borders, lettered in gilt.

£450

Later edition of the first British railway map. It shows every line that had been sanctioned by Parliament, with those already built or under construction coloured red. The only line not coloured red is the London and Cambridge Railway, continued to York as the Northern and Eastern Railway, which is coloured red only from London to Bishop's Stortford, that part having been opened on 16th May 1842.

A large and handsome map on a scale of 1 inch to 10 miles. Skempton 125 ("There are several later editions").

23. **BRONGNIART, Alexandre.** Traité Élémentaire de Minéralogie, avec des applications aux arts... Paris: Chez Deterville... 1807.

2 volumes, 8vo, pp. xii, 564; 2 leaves, pp. 443, (1), 16 folding plates on 15 sheets (plates IX and X are on one sheet). Half-titles. Contemporary half calf, spines gilt with red and green morocco labels. Tiny piece chipped from head of spine of volume 2, but a fine set.

£700

FIRST EDITION of the author's first book. This work was "commissioned as a text-book for [Brongniart's] and Haüy's courses at the Faculté des Sciences and the Muséum d'Histoire Naturelle. He adopted a simple scheme of classification based mainly on physical properties, but he also made extensive use of Haüy's crystallographic work... He emphasized the importance of studying the modes of occurrence of minerals as well as their properties, but firmly avoided any discussion of their origins as being too speculative" (*DSB*).

24. **BROOK, Abraham.** Miscellaneous Experiments and Remarks on Electricity, the Air-Pump, and the Barometer: with the description of an electrometer of a new construction… Norwich: Printed by Crouse and Stevenson for J. Johnson…London, 1789.

4to, pp. xiii, (iii), 211, 2 leaves (index), 3 engraved plates (1 folding). Contemporary tree calf (some stains, tips of corners slightly worn), flat spine gilt and with red morocco label. Endpapers browned and foxing on the folding plate, otherwise a very good copy. Signature of John DeLisle, 1796, at head of title and a few manuscript marginalia of the period.

£950

continued...

FIRST EDITION. "Abraham Brook (fl. 1749–1789), bookseller and natural philosopher,…was the author of *Miscellaneous experiments and remarks on electricity*, [in which he] explained that he had been interested in electrical experiments since 1749, but hitherto had not seen a friction machine that could produce as much electrical power as the one he had constructed after his friend the Revd. William Morgan had read Volta's works to him. The said electrometer…was a device to measure quantitatively the repulsive force that these friction machines exerted on a suspended ball, by gearing that suspension to a pointer on a dial. Brook considered that it would be useful for graduating existing electrometers, such as that of Edward Nairne, one of the leading makers of such apparatus…" (*ODNB*).

Much of Brook's knowledge seems to have come from his wide circle of scientifically minded acquaintances. He attended meetings at the Royal Society and had a paper on his electrometer published in the *Philosophical Transactions* in 1782, but he was not a Fellow. Nothing is known of his personal life, nor of the date and place of his death.

Wheeler Gift 553. A scarce provincially published collection of scientific experiments.

First Formal Conceptual Paper on the Stored-Program Computer

25. BURKS, Arthur W., Herman H. GOLDSTINE, & John von NEUMANN. Preliminary Discussion of the Logical Design of an Electronic Computing Instrument. Part I, volume I. [Princeton: The Institute for Advanced Study, September 1947.]

4to, 6 + 42 leaves. Original buff wrapppers, crudely but effectively rebacked with pale card. Signature "Newman" on upper wrapper, probably Professor M.H.A. Newman (1897–1984), mathematician and computer pioneer and one of Alan Turing's professors at Cambridge; stamp of Imperial College London on fore-edge, spine and lower corner covered in clear adhesive tape over "for Reference Only sticker", shelf marks and stamp on title-page.

£4500

Second, enlarged edition a year after the first. "A few months after ENIAC had its first public demonstration (in February 1946), the three chief members of the IAS Electronic Computer Project issued their *Preliminary Discussion*…, a report to the Army Ordnance Department that represents the first published formal conceptual paper on the stored-program computer, if we call von Neumann's informal *First Draft* a privately circulated working paper. The first edition of the *Preliminary Report* appeared in June 1946; a revised second edition, containing an expanded account of the arithmetic processes and a report of further experimental work, was issued in September 1947. This was followed by the three-part *Planning and Coding of Problems*…

"The *Preliminary Report* contains the first technical description of what is known as the von Neumann architecture, in which programs and data are stored in a comparatively slow-to-access storage medium, such as a hard disk; and work is performed on them in a fast, volatile random access-memory…" (from a long note in Hook & Norman, *Origins of cyberspace*, 959 (1).

The Photographer's Copy

26. BURROW, J.C. & William THOMAS. 'Mongst Mines and Miners; or underground scenes by flash-light: a series of photographs, with explanatory letterpress, illustrating methods of working in Cornish mines. Part I.—An account of the photographic experiences, by J.C. Burrow… Part II.—A description of the subjects photographed, by William Thomas… London: Simpkin, Marshall… Camborne: Camborne Printing and Stationery Co., Ltd. 1893.

Large 4to, 32 pages, folding lithographed section, photographic frontispiece and 13 photographic plates with a total of 27 images (all actual mounted photographs) with tissue guards. Half-title, text within ruled borders. Original red cloth (a little soiled, upper inner hinge loose), ruled and lettered in gilt on the upper cover, gilt edges. Inscribed on the front free endpaper by Lilian M. Burrow (probably Burrow's sister) of Camborne and by A. Rose Curtis, née Burrow (Burrow's daughter), also of Camborne.

continued...

Provenance: the photographer's copy, by descent through the family. Purchased at the sale of Burrow's archive in Truro on 26th August 2021, lot 537.

£4250

FIRST EDITION, THE PHOTOGRAPHER'S COPY. This remarkable book was produced as the result of the photographer, John Burrow, receiving a commission from the owners of four of Cornwall's deepest mines to capture life underground. In order to do this Burrow, a pioneer of flash photography, had to illuminate the mines with artificial light, and he thus became a pioneer in underground photography as well. He had to overcome the considerable difficulties of wet conditions and illuminating the workings by artificial means. Light was provided by magnesium flash powder which could be easily ignited with a miner's candle. He used multiple exposures and multiple flashes to photograph the larger spaces. The flash powder provided a very even light, and Burrow could vary the intensity by altering the quantity of the powder, although a large charge left the air full of smoke and unsuitable for further exposures.

The 26 images, all but one of which were taken underground, are remarkably clear and sharp. Even the frontispiece, a view on the surface, had to be taken on a Sunday when there was no smoke. With this copy of the book are a number of additional copies of the images, with Burrow's stamp on the back, one of which is a portrait picture not in the book.

Burrow (1852–1914) was born in Truro and in the early 1890s was living in Camborne. His photographs were originally shown at the annual exhibition of the Photographic Society of Great Britain, of which he was a Fellow, where he received a medal for his work. He was photographer to HRH, The Prince of Wales.

Earliest Treatise on Clocks

27. CAPRIGLIA, Giuseppe da. Misura del Tempo cioe trattato del horologii ruota di tre ordini, rusticho da campanile. Pulito, da camera. E lustro, da petto. Dove con regole facili, è certe s'insegna à fabricarli di novo, et intender i fabricati… In Padova: Per Andrea Gattella. 1665.

4to, 4 leaves (including the engraved title incorporating a portrait of the author), 72 pages. With 23 woodcut illustrations (including 12 full-page of clocks or parts of clocks, and 8 full-page diagrams). Typographical ornaments. Paper a little browned. Contemporary vellum over thin boards. Vellum torn on lower edges with strips of vellum missing, spine worn at ends and portions of vellum missing from spine, but a nice copy.

£8500

FIRST EDITION. "This is the earliest treatise on clocks and is very rare" (Baillie).

In *The Measurement of Time, that is, a treatise on clocks of three kinds, roughly made turret clocks, well made house clocks, and highly finished breast watches*, turret and house clocks are described, but there is only one mention of watches, which at the time were worn on the chest hanging on a chain round the neck, but it should be remembered that the earliest watches with a second hand or a minute hand appeared about the year that this book was published. Capriglia, a Capuchin monk, developed his own idiosyncratic terminology for the parts of the clocks that he describes, making his text difficult to understand, but it is very detailed as the book was intended for clockmakers.

Baillie, *Clocks and watches. An historical bibliography,* 1665. Not in Bromley, *The Clockmakers' Library.*

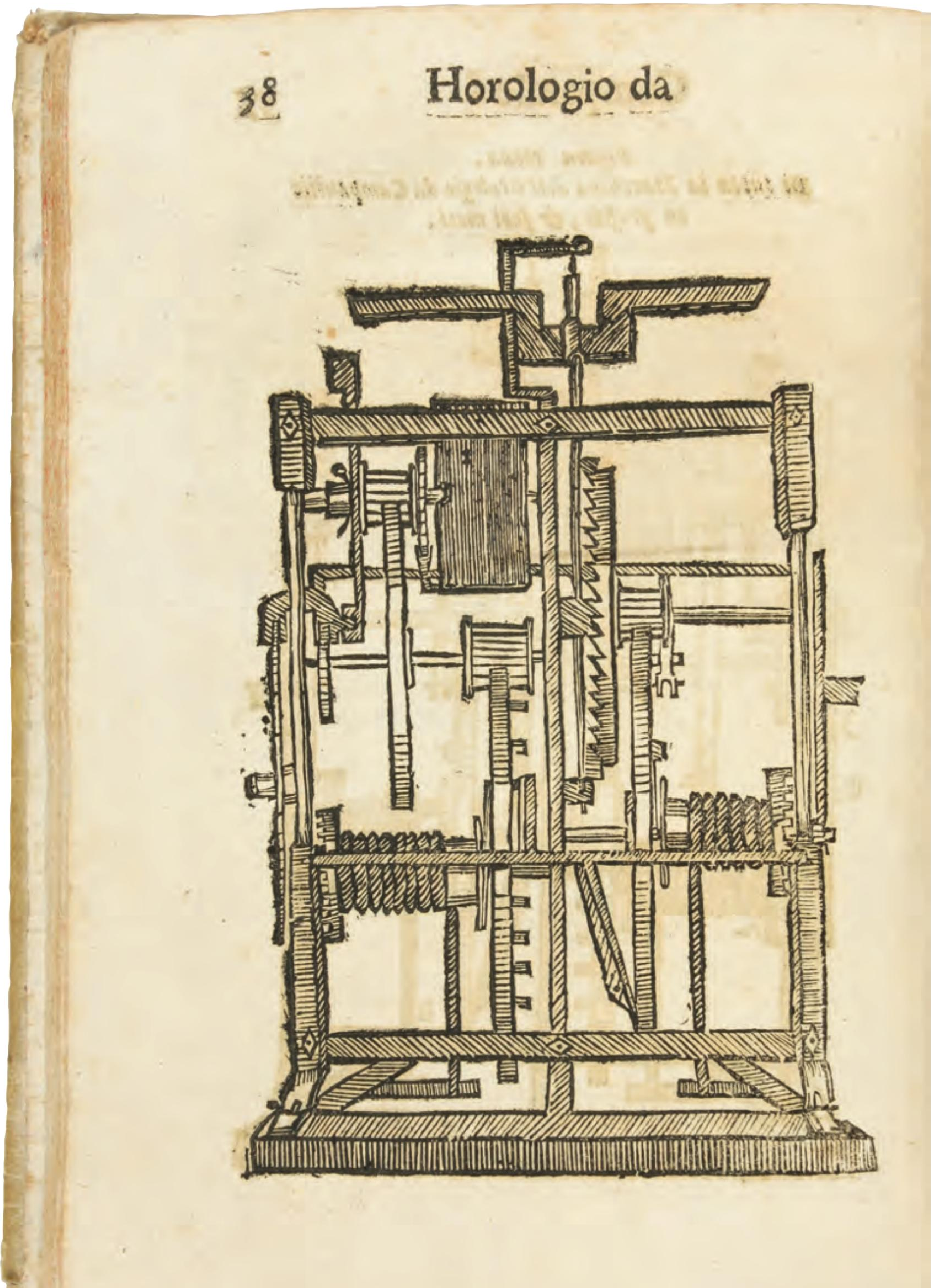
28. CAUCHY, Augustin Louis, *Baron*. Mémoire sur les Intégrales définies, prises entre des limites imaginaires. A Paris; Chez de Bure frères… Août 1825.

4to, 1 leaf, 68 pages, 1 leaf (errata). Stain in lower outer corner of title-page and small repair in lower inner corner, some leaves browned in the extreme margins. Original(?) blue wrappers, uncut.

£2800

FIRST EDITION of one of Cauchy's most important papers, the culmination of his work on definite integrals, begun with a *mémoire* in 1814. "Genuine complex integration is still lacking in the 1814 *mémoire*… In a *mémoire détaché* of 1825 [Cauchy] took a long step towards what is now called

continued...



38 Horologio da

27 Capriglia

Cauchy's integral theorem… The important 1825 *mémoire* was neither used nor quoted until 1851, a circumstance utterly strange and hard to explain" (*DSB*).

Parkinson, *Breakthroughs*, 1825. Bell, *Men of mathematics,* p. 250: "…a landmark in the history of mathematical analysis." See *En français dans le texte* 231 (note).

29. CAUCHY, Augustin Louis, ***Baron*****.** Mémoire sur l'application du calcul des résidues à la solution des problèmes de physique mathématique. A Paris: Chez de Bure frères… Février 1827.

4to, 2 leaves, 56 pages. Some minor spotting in the margins. Original mauve printed wrappers (spine very neatly repaired), uncut and partly unopened.

£850

FIRST EDITION. "Cauchy had introduced his important calculus of residues in 1826 and devoted several articles in his *Exercises de Mathématiques* to the technique. In this separately published memoir he shows that his method produces a multitude of formulae, among which are those given by Lagrange and Fourier on the theory of heat. He demonstrates how, with the aid of the calculus of residues, one can integrate linear equations with partial differences and use the integrals to verify conditions similar to those encountered in questions of mathematical physics when one considers solid bodies or fluids where the dimensions remain finite" (Roger Gaskell, Catalogue 32, item 19).

See *En français dans le texte* 231 (note).

30. CHEVREUL, Michel Eugène. The Laws of Contrast of Colour: and their application to the arts of painting, decoration of buildings, mosaic work, tapestry and carpet weaving, calico printing, dress, paper staining, printing, illumination, landscape and flower gardening, &c. Translated from the French by John Spanton. London: G. Routledge & Co… 1857.

Small 8vo, pp. xv, 237, (1) imprint, (2) adverts, colour-printed frontispiece and 3 plates (one with a flap pasted on). Original red-brown cloth, panelled in blind, upper cover and spine lettered in gilt. Slight wear to head of spine otherwise a nice copy. Signature of Henry Roberson on front free endpaper.

£450

First edition of John Spanton's translation (Martel's translation appeared in 1854) of Chevreul's *De la loi du contraste simultané des couleurs* (1839), the classic work which established the general principles of the effects of simultaneous contrast, and the most influential of his many books.

"This book was the outcome of his discovery that the apparent intensity and vigor of colors depended less on the pigmentation of material used than on the hue of the neighboring fabric. After many experiments on color contrast Chevreul formulated for the first time the general principles and effects of simultaneous contrast, the modification in hue and tone that occurs when juxtaposed colors are seen simultaneously" (*DSB*). He created a chromatic circle of 72 colours representing the entire visible spectrum from pure black to pure white, and "believed he had met the need for precise standards in the definition and use of colors and a way of faithfully reproducing any tone of color" (*ibid*).

31. CONDY, Henry Bollman. Air and Water: their impurities and purification. London: John W. Davies… 1862.

8vo, 5 leaves (including the initial blank), pp. 11–80, 2 leaves (including the final blank). Original pebbled and blind-stamped brown cloth, yellow endpapers, uncut and unopened. Pencilled note on front endpaper reads '500 copies printed, 200 of them bound in cloth. Sept. 29th/62.'

£110

FIRST EDITION. Condy (1827–1907) was a chemical manufacturer. "Condy's interest in hygiene and disinfection was evident in sales of 'ozone water', in his patents dealing with the preparation and use of chlorine and of highly oxidized compounds of manganese, and in his authorship of five short books on the topic between 1860 and 1867. It was because of this interest that he was awarded a Red Cross medal for services rendered to the sick and wounded during the Franco-Prussian War. Solutions of sodium manganate and permanganate, patented in 1856 and 1876, were marketed as 'Condy's fluid', and the derived solid as 'Condy's crystals' " (*ODNB*).

Introduction of Flanged Iron Rails

32. **CURR, John.** The Coal Viewer, and Engine Builder's Practical Companion. Sheffield: Printed for the author, by John Northall… 1797.

4to, 96 pages, and 5 folding engraved plates. Twentieth century speckled sheep, red morocco label on spine. A little spotting on the plates, otherwise a very good copy. Owner's blind stamp on front free endpaper and bookseller's slip on pastedown.

£1800

SOLE EDITION of the principal printed source for John Curr (1756–1823), a 'coal viewer', i.e. a mining engineer, and of his inventions and technical innovations, including the first printed account of an iron railway.

"His first invention was the flanged cast-iron railway—described as 'plate ways' or 'railroads' which were the first flanged iron rails installed underground for the hauling of coal… Curr's use of iron rails dramatically improved the hurrying of coal by reducing the number of horses needed to pull the corves [i.e., baskets of coal], and by enabling an additional 2000 corves to be moved annually…" (*ODNB*). The idea of plate rails was taken up by the engineer Benjamin Outram, who became a leading promoter of their use.

"Curr also sought to improve the efficiency of the steam engine, and discovered that raising the cistern higher above the cylinder produced a stronger vacuum without additional fuel. For these experiments he became an acknowledged expert in the construction of atmospheric steam engines and was regarded as a successor to John Smeaton. In 1797 [in the present book] he published plans and descriptions of his modified Newcomen steam engines, with detailed comparisons between the power of different types of boiler" (*ibid*).

Skempton 335: "Includes the first printed account of plate rails." See Skempton *et al* (eds.), *A biographical dictionary of civil engineer*s: "…was responsible for a number of innovations, the most important of which was his introduction of flanged iron plateways."

33. **CURRY, Haskell B**. On the Composition of Programs for Automatic Computing. (Project NOL 118b, NR-044-049). White Oak, Maryland: Naval Ordnance Laboratory, 26 January 1949.

4to (268 x 204 mm), 52 leaves. Reproduction of typescript printed on rectos only. Stapled (last leaf detached).

Provenance: Computing and Control Collection [Imperial College, London], with 2 stamps and 2 shelfmark stickers on title-page. Pencilled note at top of title-page "Have Prof. Newman and Mr. Turing seen a copy of this?" and pencilled notes on last page (blank).

£1750

FIRST EDITION of Curry's second report on computer programming.

During his last three months working at the Ballistic Research Laboratories in 1946 Curry was Acting Chief of the Computing Laboratory; it was during this period that he became involved with the ENIAC computer. As a result of this experience he was a consultant in the field of computing methods to the United States Naval Ordnance Laboratory for about a year from 1948.

Curry's work on programming inverse interpolation on the ENIAC led him to develop a theory of programming. He broke programs down into the simplest possible elementary components and then proposed using program composition to put them together again. This approach has been compared to the later development of compilers for user languages.

"The fact that, on the one hand, a logician got involved with ENIAC, and, on the other hand, started to think about developing more efficient ways to program a machine, makes this a very early example of consilience between logic, computing and engineering. Curry's work in this context has materialized into three reports and one short paper. The first report, in collaboration with Willa Wyatt, describes the set-up of inverse interpolation for the ENIAC. The second and third reports develop the theory of program composition and apply it to the problem of inverse interpolation… Despite the fact that the [second and third] reports were never classified, this work went almost completely unnoticed in the history of programming as well as in the actual history and historiography." De Mol, Bullynck & Carlé, "Haskell before Haskell: Curry's Contribution to

continued...

Programming (1946–1950)” in *Lecture Notes in Computer Science* series (vol. 6158, pp. 108–117), 2010. Hook & Norman, *Origins of cyberspace*, do not record any works by Curry.

34. DAVID, [Jean Pierre]. Prize dissertations by M. David, surgeon at Rouen in Normandy, as adjudged by the Royal Academy of Surgery in Paris. First, on the effects of motion and rest, and their several modes of application in surgery. Secondly, on the various effects of counter-strokes on the human body, and the methods of relieving them. Translated from the original French, with copious additional annotations, by J.O. Justamond… London: Printed for T. Cadell… 1790.

4to, 1 leaf, pp. 165, (1). Some spotting, title a bit dust-soiled and light soiling in the upper margins. Good modern quarter calf antique. Signature of R.J. Allard in upper corner of title.

£1200

FIRST SEPARATE EDITION IN ENGLISH of a classic and very rare work in orthopaedics, important for showing the effect of movement and of rest in the treatment of joint conditions. David concluded “that to bring about anchylosis — to effect the union of bones — rest was beneficial, action was injurious. On the other hand, if anchylosis were to be avoided, as in injuries to the elbow or knee joints, then the opposite practice must be pursued — that of action or movement” (Keith). Even after the work of Hilton in the nineteenth century, modern surgeons came to accept the work of David.

David also described the various types of spinal deformity consequent to vertebral disease in the same year that Pott published his account. In fact David’s book includes a description of Pott’s disease, with post-mortem findings, better than Pott’s own.

David’s essay on motion and rest first appeared in English the year before, included by Justamond in his *Surgical Tracts*. This separate edition is extremely rare (ESTC records 7 copies word-wide).

See G&M 4303 (first edition of 1779). Bick, *Source Book*, p. 80. Keith, *Menders of the Maimed,* pp. 34 and 189–191: “…his famous essay.” Valentin, *Geschichte der Orthopädie*, p. 64.

35. DELPECH, [Jacques Mathieu]. Mémorial des Hopitaux du Midi, et de la clinique de Montpellier. Paris: Chez Gabon,...1829 [–1830].

3 volumes in 2, 4to, 1 leaf (prospectus), pp. 656, 1 plate; pp. viii, 744, 3 plates; pp. 40, 3 plates. Two small stains in upper margin of one plate. Contemporary half vellum, blue morocco labels, small chip in spine of vol.2, edges a little rubbed but a nice set.

£1200

SOLE EDITION. This scarce book was a journal begun and edited by Delpech, pioneer orthopaedic and plastic surgeon. It is dedicated to publishing the accounts of clinical surgery carried out at Montpellier and other hospitals of the Midi, and abstracts of lectures by the professors there. It contains a large amount of material by Delpech himself, as well as by other contributors. Owing to the civil unrest in 1830, Delpech ceased its publication abruptly, for which he prints an apology at the end of vol. 3. Delpech was almost solely responsible for raising the status of the Montpellier school from the level to which it had sunk before his appointment as professor there in 1812.

The Louse

36. DENNY, Henry. Monographia Anoplurorum Britanniae; or, an essay on the British species of parasitic insects belonging to the order Anoplura of Leach, with the modern divisions of the genera according to the views of Leach, Nitzsch, and Burmeister, with highly magnified figures of each species. London: Henry G. Bohn,... 1842.

8vo, pp. (viii), (vii)–xxiv, (ii), 262, (1) Postscript, 10 (Bohn’s adverts), and 26 hand-coloured plates containing more than 100 figures. Half-title. Inscription erased from top of title. Original purple cloth, uncut. Spine faded to brown and extremities slightly rubbed, but a very good copy.

£280

FIRST EDITION. Denny was the leading authority of the mid-nineteenth century on parasitic insects. This substantial monograph on the louse is one of only two books he published, and is considered by the article on the louse in the *Ency. Brit.* (1911) to be the most important on the subject.

37. DESCARTES, René. La Dioptrique [and] Les Météores. [Leiden: J. Maire, 1637.]

2 parts in 1 volume with continuous pagination, 4to, 1 leaf, 294 pages. No title-page but half-title to the first part and including the half-title (pp. 155–156) to the second part. Woodcut illustrations and diagrams in the text. 18th century Italian half sheep, flat spine gilt with green and brown morocco label, marbled sides and endpapers. Foxing in gathering B, otherwise a fine copy but top edge cut a little close. Bookplate of Count Jacopo Francesco Riccati (1676–1754, eminent Venetian mathematician); and of David L. DiLaura.

£15,000

FIRST PRINTINGS of two of the essays included by Descartes in the first edition of his *Discours de la Méthode* (Leiden, 1637). The third, and the last of the three to be printed, was on analytical geometry.

Optics was a life-long interest of Descartes, and his earliest study was that of refraction, written in 1619–1621. The first full expression of these and other ideas was his *Le Monde*, nearly completed by 1633 but not published in his lifetime… In the following three years Descartes reworked *Le Monde*…writing what would become the *Discours de la Méthode* along with its three demonstrative essays…" (DiLaura).

La Dioptrique has three principal topics: the nature of light and the laws of optics, vision, and dioptric improvement of vision. *Les Météores*, on atmospheric phenomena, is in ten Discourses, of which Discourse eight presents the correct explanation of the geometric aspects of primary and secondary rainbows.

"It is known that the essays were produced in the order of *La Dioptrique, Les Météores,* and then *La Géometrie*, and that the *Discours* itself was written last. Printing was also in that order and took nearly a year. Written and printed before the rest of the book, copies of *La Dioptrique* and *Les Météores* were known to circulate in Europe in 1636… The advanced copies—as it were—of two of the essays drew responses, questions and criticisms from several European scholars" (*ibid*). Huygens, for instance, received a copy of *La Dioptrique* and invited Descartes to discuss it over dinner at his house in Amsterdam. The *Géometrie* was printed as a separate issue of only six copies on large paper.

DiLaura, *Bibliotheca Opticoria,* 76. See Guibert, *Bibliographie des oeuvres de René Descartes,* pp. 14–16 and 26–27, who does not locate any separate issues of these two essays but does locate a single copy of the *Géometrie* (the Bodleian Library, Oxford).

Large Paper Presentation Copy

38. [DIGBY, Sir Kenelm.] Two Treatises. In the one of which, the Nature of Bodies; in the other, the Nature of Man's Soule; is looked into: in way of discovery, of the immortality of reasonable soules. At Paris: Printed by Gilles Blaizot. 1644.

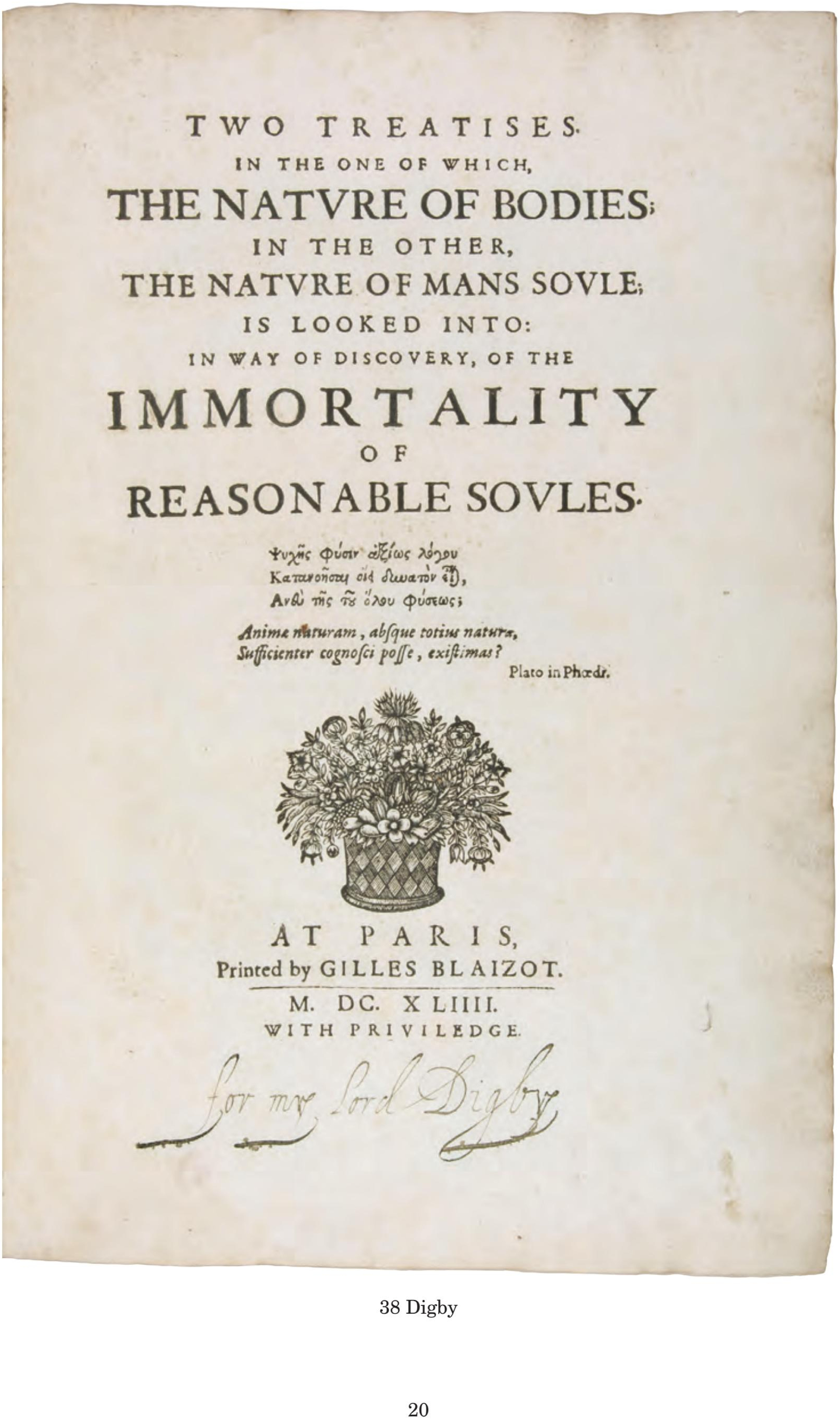
Large folio (41 x 27.6 cm.), pp. (xliv), 466. Without the final blank leaf Nnn4 (as usual). Woodcut ornament on title, woodcut head- and tailpieces. Faint dampstain in upper margin throughout, occasional very faint dampstain in lower margin, a few tiny wormholes in gathering A. Contemporary red morocco (ends of spine rubbed, corners a little worn, a few small repairs, some dark stains and small scratch marks on upper cover), gilt borders and panels on sides, spine richly and delicately gilt in compartments, inner gilt dentelles, endpapers replaced probably in the early 20th century, gilt edges, armorial bookplate. An impressive copy. Inscribed by Digby at the foot of the title-page "for my Lord Digby" (Digby's cousin John Digby, earl of Bristol).

£12,500

FIRST EDITION, presentation copy to a close relative (the book is dedicated to Digby's son) on large paper, in contemporary red morocco. This introduction by Digby of Gassendian and Cartesian atomism into England provided Boyle and Newton with the foundations for their achievements in chemistry and physics.

"Digby's *Two Treatises* is a landmark work in several fields of early science. It is the first fully developed expression of atomism or corpuscular theory; the first important defence of Harvey on the circulation in English; a modern presentation of the nervous system predating Descartes; and a ground-breaking work in embryology. It also contains the first recorded patch-test for allergy; the fullest early account in English of teaching lip-reading; and material on conditioning anticipating

continued...



TWO TREATISES.
IN THE ONE OF WHICH,
THE NATVRE OF BODIES;
IN THE OTHER,
THE NATVRE OF MANS SOVLE;
IS LOOKED INTO:
IN WAY OF DISCOVERY, OF THE
IMMORTALITY
OF
REASONABLE SOVLES.

Ψυχῆς φύσιν ἀξίως λόγου
Κατανοῆσαι οἴει δυνατὸν εἶναι,
Ἄνευ τῆς τοῦ ὅλου φύσεως;

Animæ naturam, abſque totius naturæ,
Sufficienter cognoſci poſſe, exiſtimas?
Plato in Phœdr.

AT PARIS,
Printed by GILLES BLAIZOT.
M. DC. XLIIII.
WITH PRIVILEDGE.

for my Lord Digby

38 Digby

Pavlov" (Rubin). Of the 38 chapters, Digby devotes six to light and colours, three to magnetism and three to generation and physiology.

Wing D1448. Duveen pp. 171–172. Thorndike VII, pp. 498–502. Needham, *History of embryology,* pp. 102–107. Keynes, *Bibliography of…Harvey*, p. 121. Rubin, D., *Sir Kenelm Digby F.R.S. 1603–1665. A bibliography based on the collection of K. Garth Huston, Sr., M.D.* (1991) for Jeremy Norman & Co, pp. 12–15, expanding on the summary quoted above.

The Newly Invented Telescope

39. DOMINIS, Marko Antonije. De Radiis Visus et Lucis in vitris perspectivis et iride tractatus… Per Joannem Bartolum in lucem editus. In quo inter alia ostenditur ratio instrumenti cuiusdam ad clarè videndum, quae sunt valde remota excogitati. Venetiis [Venice]: Apud Thomam Baglionum. 1611.

4to, 4 leaves, 78 pages, 1 leaf (errata). Woodcut device on title, woodcut figures in the text. Upper margin of title and A4 browned and with a small hole in A4 repaired, some light browning and spotting throughout (mainly in the margins), a few small holes in blank area of final leaf (some repaired). Old Continental boards patterned in gilt, neatly rebacked with paper. Bookplate of David L. DiLaura.

£22,500

FIRST EDITION of a very rare and important book in the early history of optics, which deals with lenses, the telescope, and the rainbow.

The first part of the book presents the basic propositions of optics and basic aspects of reflection and refraction. This lays the foundation for the first of the two principal topics of the book, the operation of lenses, which is important for giving one of the earliest accounts, probably the first, of the newly invented telescope. This instrument is also described in the preface by Giovanni Bartoli, who was the Tuscan ambassador at Venice. He was an early advocate of Galileo's discoveries and his preface is the origin of the incorrect notion that it was Galileo who invented the telescope. De Dominis, whose book was printed the year after Galileo's *Siderius Nuncius* and by the same printer, and with which it is sometimes bound, even suggests incorporating draw-tubes into the telescope, which came into use much later. "With the same thoroughness he examined lens combinations, in particular the combination of a convex object glass and a concave eyepiece. This work led to his discovery of the conditions under which the magnification of an image is possible" (*DSB*).

The second principal topic is the rainbow, in which De Dominis propounds his famous theory which greatly influenced Newton, who acknowledges De Dominis and this book in the *Opticks*. He held that a rainbow is caused by refraction and reflection in raindrops.

De Dominis was a Dalmation Jesuit who rose to become archbishop of Split. In 1616 he fled to England and joined the Anglican church. Later he returned to Rome where he died in a dungeon. His body, together with his writings, was burned by the Inquisition.

Cinti 33. Riccardi I, 417–418: "importantissimo libro". DiLaura, *Bibliotheca Opticoria*, 55, for a full analysis. This is a rare book, with several writers alluding to its rarity over the centuries. It was placed on the *Index* of prohibited books and may have been suppressed or burned with its author.

40. DURLACHER, Lewis. A Treatise on Corns, Bunions, the Diseases of Nails, and the general management of the feet. London: Simpkin, Marshall, and Co. 1845.

8vo, pp. xxiv, 196, and 6 hand-coloured lithographed plates from drawings by Alexander Durlacher. Original mauve cloth, faded to brown (as usual?), rebacked preserving most of the original spine, yellow endpapers replaced, paper very slightly browned in the margins, uncut edges, a very good copy. Bookplates of C.J. Peacock and J. Colin Dagnall, the historian of the subject.

£900

FIRST AND BEST EDITION, being the only illustrated edition and in larger format than later editions. G&M 4325. This book gave the first description of anterior metatarsalgia (later designated Morton's metatarsalgia), plantar digital neuritis, oncycophosis, Durlacher's corn, etc. It placed chiropody on a scientific basis, and is, in the opinion of J.C. Dagnall, the most important book in the literature.

See Dagnall, "The history of chiropodial literature", in *The Chiropodist,* 1965.

41. DUTENS, [Joseph Michel]. Mémoires sur les travaux publics de l'Angleterre, suivis d'un mémoire sur l'esprit d'association et sur les différens modes de concession, et de quinze planches avec une carte générale de la navigation intérieure, indiquant les deux systèmes des grands et des petits canaux de ce pays. A Paris: de l'Imprimerie Royale, 1819.

4to, 4 leaves (the first a blank), pp. xx, 374, (1) errata, 15 lithographed plates on 14 sheets (plates 1 and 2 are on the same sheet), 1 large folding engraved map of the canals of England heightened in colour. Twentieth century French quarter calf and marbled sides, spine with raised bands and gilt centres, red morocco label. Tear in first plate and in fold of second plate neatly repaired without loss, paper a little browned but otherwise a clean copy.

£700

FIRST EDITION. A very detailed and well illustrated survey of civil engineering in Britain at the close of the Napoleonic wars, and a more comprehensive source than any English work of the time.

Dutens, a canal engineer, was sent to England to study the inland navigation there, though he extended his brief to cover roads, bridges, docks and harbours, and water supply. But above all he was concerned with the economic aspects of such works and whether they were built by individuals or private companies. The British system of private enterprise contrasted sharply with the centralised bureaucracy in France.

Among the devices described by Dutens is the diving bell, a device virtually unknown in France, which was then being used for the construction of docks and wharves at London and Plymouth.

The book was written at the request of Gaspard de Prony, inspector-general of the Ponts et Chaussées. The illustrations are an early example of the use of lithography for technical illustration.

Phillips, *Diving*, pp. 733–734.

42. DYEING. The Whole Art of Dying. In two parts. The first being an experimental discovery of all the most useful secrets in dying silk, wool, linnen and the manufactures thereof, as practised in England, France, Spain, Holland and Germany… Written originally in the German language. The second part is a general instruction for the dying of wools and woollen manufactures of all colours; for the culture of the drugs used in the tinctorial art; also for the dying of hats; published by the especial command of the present French King in that language… Both of which are faithfully rendred into English from their respective originals. London: Printed by William Pearson, for J. Sprint, Dan. Midwinter, G. Conyers, and Tho. Ballard. 1705.

8vo, pp. (xx), 356. Title within double ruled border. Paper of prelims slightly browned, some occasional spotting, tiny wormhole in upper corner of two gatherings, lower blank corner of last leaf torn away without loss. Contemporary calf (rebacked preserving the original backstrip, upper cover marked, edges a little worn), new red morocco label. Provenance: signature (deleted but still legible) of Elias Newcomen on title, possibly Elias Newcomen (1706–1765), second son of Thomas Newcomen the inventor of the atmospheric steam engine. Elias was an ironmonger like his father.

£5500

FIRST EDITION IN ENGLISH, and the first comprehensive work on dyeing in English.

The first part of this milestone book on the chemistry of dyeing comprises a translation of two German works by Georg Ernst Stahl entitled *Ars Tinctoria Experimentalis* (Frankfurt & Leipzig, 1683) and the very brief *Gruendliche Nachricht von der Pott- und Weyd-Asche* (Frankfurt & Leipzig, 1685).

The second part is the English version of *Instruction générale pour la teinture des laines…de toutes couleurs* (Paris, 1671), the first systematic technical treatise for the French dyeing industry. It is attributed to Jean Baptiste Colbert, the French finance minister who initiated reorganisation and regulation of all French industry. This work was also published in German by Stahl as *Ars Tinctoria Fundamentalis* (Frankfurt & Leipzig, 1683), who realised its importance. It is not clear whether this English translation was made from the original French or from Stahl's translation.

This copy has a variant imprint to that given in ESTC, which reads "printed by William Pearson, and sold by J. Nutt…"

Neville, p. 403 (with same imprint). Ron, *Bibliotheca Tinctoria*, 1113.

Einstein's First Statement of the Special Theory of Relativity

43. EINSTEIN, Albert. Über einen die Erzeugung und Verwandlung des Lichtes betreffenden heuristischen Gesichtspunkt. [*And*:] Über die von der molekularkinetischen Theorie der Wärme geforderte Bewegung von in ruhenden Flüssigkeiten suspendierten Teilchen. [*And*:] Zur Elektrodynamik bewegter Körper. [In:] Annalen der Physik, 4. Folge, vol. 17. Leipzig: Johann Ambrosius Barth, 1905.

8vo, pp. viii, 1020 pp., 5 plates. Contemporary green quarter morocco and marbled sides spine faded and a little rubbed, otherwise a fine copy. Small bookplate of the Institut Catholique de Paris and a few small and discreet stamps; bookplate of David L. DiLaura. The whole volume is offered, of which the three papers occupy pp. 132–148, 549–560, and 891–921 respectively.

£14,500

FIRST PRINTINGS of three important early papers by Einstein.

In the first paper, "Einstein suggested that light be considered a collection of independent particles of energy, which he called 'light quanta.' Such a hypothesis, he argued, would provide an answer to the problem of black-body radiation where classical theories had failed, and would also explain several puzzling properties of fluorescence, photoionization and the photoelectric effect… For this paper, together with the one on the photoelectric effect published in 1906, Einstein was awarded the Nobel Prize in Physics in 1921.

The second paper proved, according to Einstein himself, that "according to the molecular theory of heat, bodies of dimensions of the order of 1/1000 mm. suspended in liquid experience apparent random movement due to the thermal motion of molecules. Such movement of suspended bodies has actually been observed by biologists who call it Brownian molecular movement" (Clark, *Einstein*, p. 87). Experimental verification of the predictions made in this paper contributed to proving the physical reality of molecules.

The third paper, on the electrodynamics of moving bodies, was Einstein's first statement of the special theory of relativity. "Two revolutionary conclusions were reached in this paper: first, that all motion was relative to the inertial system in which it was measured; and second, that matter and energy are equivalent The presentation of these theories, which were proved some years later, constituted nothing less than a radical reinterpretation of the universe, dethroning the Newtonian view which had ruled for over two centuries" (Norman). This has formed the basis of today's atomic reactors.

Dibner 167 and Horblit 26b (both the third paper). Norman catalogue 689, 690, and 691A. Weil 6, 8, and 9.

44. ESMARCH, Friedrich. Handbuch der Kriegschirurgischen Technik. Hannover: Carl Rümpler, 1877.

8vo, pp. xv, 316, 30 chromolithographed plates and 536 text illustrations. Half-title. Three hospital library stamps on title. Contemporary brown half morocco, black cloth sides, spines and corners neatly repaired.

£550

FIRST EDITION. An important and profusely illustrated field-manual. Esmarch introduced many improvements in military surgery, in particular the first-aid bandage on the battlefield, and the "Esmarch bandage" for standardising surgical hemostasis. "He did much to improve the status of military surgery through his contributions on resection after gunshot wounds, the proper locale for field hospitals and bandaging stations, surgical techniques, first aid to the wounded, and on first aid in accidents" (Garrison).

Earliest Extant Treatise on Optics

45. EUCLID. Eukleidou Optika kai katoptrika [in Greek] Optica & Catoptrica, nunquam antehac Graece aedita. Eadem Latine reddita per Ioannem Penam… Parisiis: Apud Andream Wechelum… 1557.

2 parts in 1 volume, 4to, pp. (xx), 48; (iv), 64. The text of the first part is printed in Greek. Woodcut device on titles (the second much larger), woodcut headpieces and initials, diagrams in the text,

continued...

a copy with generous margins, lightly ruled in red throughout. Some light browning, last page dust-soiled and with a repair to the upper inner corner just touching one letter. 20th century marbled boards with vellum spine, red morocco label. Some early marginalia in Latin and Greek; old manuscript note in Greek on flyleaf; bookplate of David L. DiLaura.

£5500

FIRST SEPARATE EDITION and the *editio princeps* of Euclid's *Optica* and *Catoptrica*, in Greek with their Latin translations. The *Optica* is the earliest surviving text on optics and light in the western world.

"The *Optica* presents the phenomena of visible light and the Euclidian idea of vision rays emanating from the eye, comfortably aligned with and analyzed by geometry. It re-emerged as an important text in the 15th century for its use in the theory of linear perspective. The *Catoptrica*, a treatise on mirrors attributed by Proclus to Euclid, covers the mathematical theory of mirrors, particularly the images formed by plane and spherical concave mirrors" (DiLaura).

The *Optica* remained the only work on the subject until Ptolemy's. It is here translated and edited by Jean Pena, professor of mathematics at Paris and former student of Peter Ramus. "Pena sought to completely and accurately present the whole of the optical and vision teaching of Euclid, in part as a balance to what he considered the uncritical acceptance of Witelo and Peckham common at that time… Pena presents the Euclidian work on the geometrical optics of vision and mirrors and even more influentially, includes the preface *De Usu Optices* — 'The Use of Optics'— for which Pena's book became famous. In it, he summarized optical principles including refraction, and claimed that practical astronomical knowledge and optical laws demonstrated that Aristotle's celestial spheres could not exist" (*ibid*).

DiLaura, *Bibliotheca Opticoria*, 26.

46. EUCLID. La Prospettiva di Euclide, nella quale si tratta di quelle cose, che per raggi diritti si veggono: & di quelle, che con raggi reflessi nelli specchi appariscono. Tradotta dal R.P.M. Egnatio Danti… Con alcune sue annotationi de' luoghi piu importanti. Insieme con La Prospettiva di Eliodoro Larisseo cavata della Libreria Vaticana, e tradotta dal medesimo nuovamente data in luce. In Fiorenza [Florence]: Nella Stamperia de' Giunti, 1573.

3 parts in 1 volume with continuous signatures, 4to, pp. (viii), 110, (2) blank but for ornament on verso; (16); (18). Without the final blank leaf. Separate title-pages to the second and third parts, the third part printed in double columns with Greek and Latin text. Woodcut vignette on title, woodcut diagrams and ornaments in the text. Some light foxing, small piece torn from lower margin of O4. 19th century red half morocco, marbled sides and endpapers (a few small holes in marbling of upper cover, tips of upper corners worn). Old and unobtrusive library stamp at foot of title, bookplate of David L. DiLaura.

£4200

First edition of Egnazio Danti's annotated translation of Euclid's *Optica* and *Catoptrica*, the first vernacular and the only sixteenth-century Italian edition. To these is appended the first publication of the *Capita opticorum* of Heliodorus of Larissa, in an Italian translation followed by the Greek *editio princeps* and a Latin translation.

Euclid's *Optica*, an elementary treatise on perspective, was the first Greek work on the subject. The *Catoptrica*, on mirrors, is actually not by Euclid but is probably the work of Theon. Riccardi (I, 391) regards this edition as valuable for the commentary by Danti, who was cosmographer at the court of Cosimo I in Florence.

The *Capita opticorum* of the second-century Greek mathematician Heliodorus is a commentary on, and abridgement of, Euclid's optics, Ptolemy's optics, and Theon's recension of Euclid. It appears in print here for the first time, and is his only known work. "It is important for its allusions to various ancient sources and for giving information on optics as generally understood at the time" (DiLaura).

DiLaura, *Bibliotheca Opticoria*, 32 and 33.

47. EXPOSITION UNIVERSELLE, 1855. Rapport sur l'Exposition Universelle de 1855 présenté a l'Empereur par S.A.I. Le Prince Napoléon, président de la commission. Paris: Imprimerie Impériale, 1857.

continued...

8vo, 2 leaves (half-title and title), 511 pages, and 2 folding plans. Contemporary green straight-grained cloth, green morocco spine gilt in compartments, gilt edges. Mild foxing on the first and last few leaves but a fine copy. Lettered on the upper cover that this copy is a gift from the Prince Napoléon, president of the commission, with his arms in gilt on the lower cover, and a letter from his office to M. Rossignol Dolléons pasted to the front flyleaf.

£550

FIRST EDITION. The Exposition Universelle was the second international exhibition in the world, after that in London in 1851. It was larger than its predecessor but the same number of countries participated. This book gives details of the organisation, documentation, finances and statistics of this important event.

The Motor Car

48. FARMAN, D. Auto-Cars. Cars, tramcars, and small cars. Translated from the French by Lucien Serraillier. With preface by Baron de Zuylen de Nyevelt. London: Whittaker & Co… 1896.

Small 8vo, pp. ix, 249, (1). With 112 illustrations in the text. Original red cloth (spine faded and a little worn at ends, small hole in cloth on upper cover, upper edge of upper board bumped and with 2 cm. damage to edge), printed advertisements on the endpapers. Signature of Ernest Talbot Dove, 1901, on the half-title.

£650

FIRST EDITION. One of the first books in the English language on the automobile, the most important development in personal transport after the horse. The year 1896 saw the publication of the first automotive books in English — the other books published that year included those of Knight and Sennett. Farman was a mechanical engineer, and his book gives a great deal of information on the history and technology of the horseless carriage and on early motor cars. It was published in Paris in the same year in French (Farman was born in Paris and his first language was French). He was the brother of the aviator Henry Farman, and together they established the largest motor agency in Paris, the Palais de l'Automobile, dealing in Delauney-Bellevilles, Panhard-Levassors, and Renaults.

Norman catalogue 766.

49. FERRANTI. Features of the Ferranti Atlas Computer. [London: Printed by Specialised Printing Services Ltd.] May 1961.

A4 (217 x 210 mm), 2 leaves, 13 pages, 9 leaves of photographic and line illustrations. Original grey printed wrappers, blue comb binding. Bookplate of the Lyon Playfair Library, Imperial College, London, with stamps on title-page and a sticker removed, shelfmark on verso, and two small stickers on upper cover.

£200

"In 1956 the Manchester University computer team, under [Professor] Tom Kilburn [shown in plate 2], began working on the design of a supercomputer, originally called the MUSE (for microsecond engine), that was intended to be one thousand times faster than the Ferranti Mark I. The size and speed of this new computer meant that it would no longer be possible to run programs in series, since too much time would be spent transferring data between random access memory and peripheral devices such as magnetic drums and discs and other basic peripherals. To enable efficient use of the equipment and rapid turnaround of user jobs, the Manchester team developed what are now well-known techniques, such as multiprogramming, interrupts, pipelining, virtual storage, and paging. The work done on this computer project together with that arising from two parallel projects in the United States, laid the foundations for the hardware and software of the large mainframes of the 1960s and 1970s… At the time, Atlas was reckoned to be the most powerful computer in the world…" (Hook & Norman, *Origins of cyberspace,* note to item 604, another document on the Ferranti Atlas).

50. FERRI, Alfonso. De Sclopetorum sive Archibusorum Vulneribus. Eiusdem de caruncula sive callo quae cervici vesicae innascuntur. Romae: apud Valerium et Aloysium Doricòs fratres, 1552.

4to, pp. (iv), 132, (4) contents. Three woodcuts of instruments in the text. Lower blank corner of title torn away and very neatly restored, pale dampstain in the upper margin of eight leaves, a few small insignificant stains, generally an excellent copy. Modern vellum over boards.

£5500

FIRST EDITION. The second monograph on the treatment of gunshot wounds (Paré's being the first), which, with syphilis on which Ferri also wrote a monograph, were the two greatest medical problems of the sixteenth century. Ferri was the first to deal with injuries caused by heavy guns. He invented a surgical instrument called an "alphonsinum" for removing bullets, which is illustrated in three woodcuts on page 29. He advised correctly that pieces of clothing and armour left deep in a wound led to suppuration, and should be removed, but he also perpetuated the idea that gunshot wounds were poisonous.

The tract on the fleshy growths on the cervix of the bladder is of particular interest to the historian of urology, and is one of the earliest on the subject. The Spaniard Andrès Laguna published a work on the same subject the year before (1551), which is cited as the first important work on diseases of the genito-urinary system. This tract by Ferri, which was the subject of an extensive analysis by Malgaigne, is discussed at length by Desnos, *Histoire de l'urologie*, pp. 99–100.

Cockle, *Military books*, 844. Cushing F105.

Burning Glasses

51. FINÉ, Oronce. De Speculo Ustorio, ignem ad propositam distantiam generante, liber unicus… Lutetiae [Paris]: Ex officina Michaelis Vascosani… 1551.

4to, 25 leaves. Without the final blank leaf. Woodcut initials, and 33 woodcut diagrams in the text. Text faintly ruled in red. Paper slightly browned but a crisp copy with generous margins. Modern French marbled boards and red morocco spine. With early annotations in the margins of 12 pages, extensive on the first 8 (with some trimmed). Bookplate of David L. DiLaura.

£2800

FIRST EDITION. A rare treatise on burning glasses or concave mirrors, which includes mathematical analyses and methods of their construction. Such mirrors were used in metallurgy and in assaying. Finé's principal sources were Witelo's *Perspectiva* and Alhazen's recent *De Speculis Comburentibus* (1548), and although the book is not composed of original material, it is a carefully crafted compilation comprising a much needed textbook on catoptrics. "It was the first such book printed in France, and…esteemed for its careful presentation, straightforward Latin, and the excellence of its figures" (DiLaura).

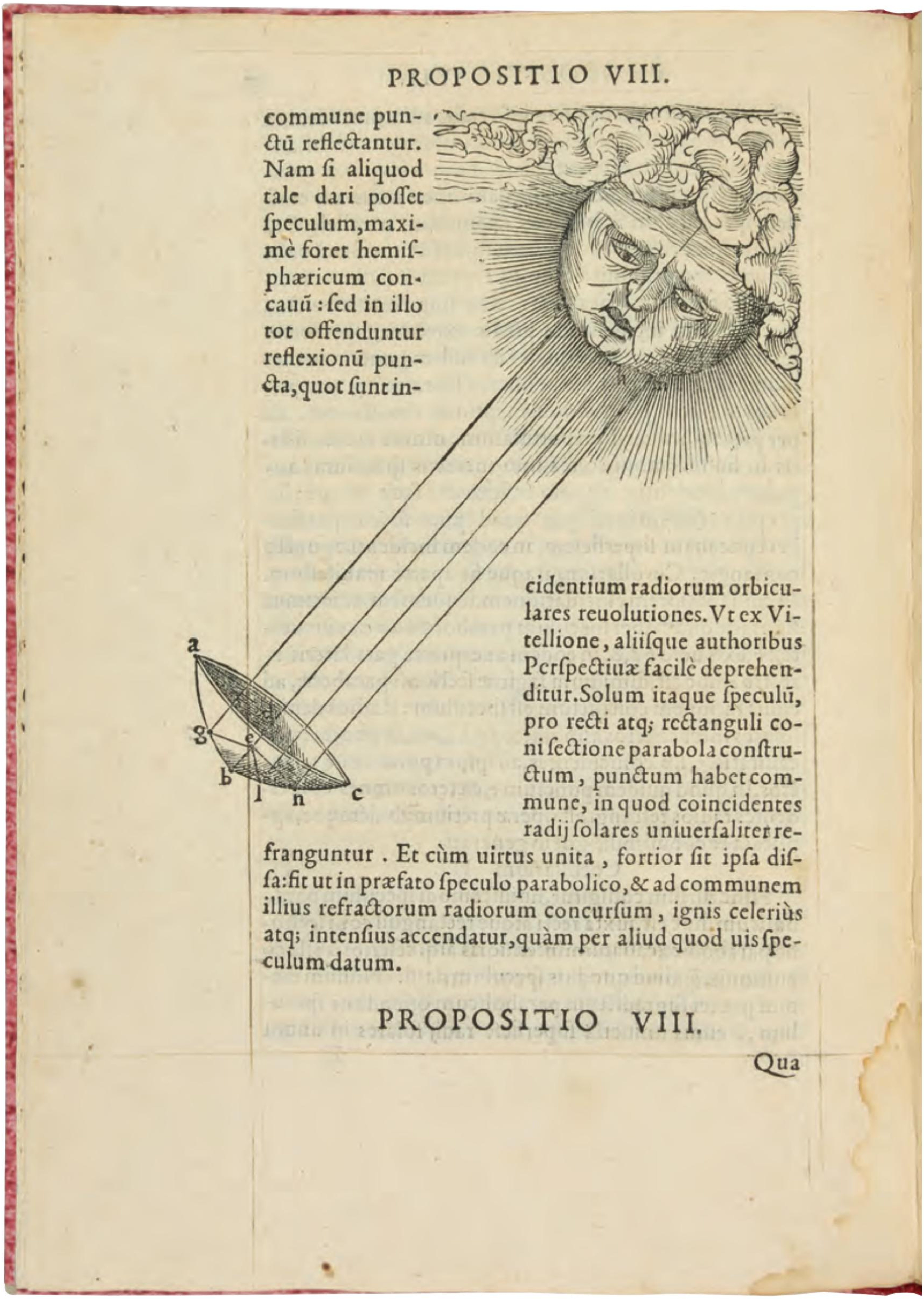
DiLaura, *Bibliotheca Opticoria*, 21. Norman catalogue 796.

52. FLÜCKIGER, Friedrich A. & Daniel HANBURY. Pharmacographia. A history of the principal drugs of vegetable origin, met with in Great Britain and British India. London: Macmillan and Co… 1874.

8vo, pp. xv, (v), 704. Contemporary green half morocco, spine with gilt bands and lettering, marbled endpapers, gilt edges. Slight cracking to surface of upper joint, but a handsome copy. Presentation copy, inscribed on the verso of the half-title: "Robert Hart, Inspector General of H.?.M. Customs Peking, with kind regards from Thomas Hanbury, Addiscombe, Croydon, November 1874."

£450

FIRST EDITION. G&M 2032. Hanbury had published *Notes on Chinese materia medica* two years earlier. "In 1874 he published *Pharmacographia*, a joint work with Professor F. A. Flückiger, a teacher of pharmacognosy at Bern. The aim of this book was to investigate anew the field of vegetable materia medica in order, as far as was possible, to remove some of the uncertainties which surrounded the subject. Within a few decades, the development of the pharmaceutical industry was to make such researches seem dated. Nevertheless, Hanbury's investigations into the minutiae of plants and drugs were highly influential among his contemporaries" (*ODNB*).



commune punctū reflectantur. Nam ſi aliquod tale dari poſſet ſpeculum, maximè foret hemiſphæricum concauū: ſed in illo tot offenduntur reflexionū puncta, quot ſunt incidentium radiorum orbiculares reuolutiones. Vt ex Vitellione, aliiſque authoribus Perſpectiuæ facilè deprehenditur. Solum itaque ſpeculū, pro recti atq; rectanguli coni ſectione parabola conſtructum, punctum habet commune, in quod coincidentes radij ſolares uniuerſaliter refranguntur. Et cùm uirtus unita, fortior ſit ipſa diſſa: fit ut in præfato ſpeculo parabolico, & ad communem illius refractorum radiorum concurſum, ignis celeriùs atq; intenſius accendatur, quàm per aliud quod uis ſpeculum datum.

PROPOSITIO VIII.

Qua

51 Finé

53. FORBES, Sir John. Sketch of the Medical Topography of the Hundred of Penwith, comprising the district of The Landsend, in Cornwall. Worcester: Printed by H.B. Tymbs and H. Deighten, Journal Office. [n.d., c.1834.]

8vo, 2 parts in 1 volume with continuous pagination, pp. v, (6)–229, folding frontispiece (a coloured lithographed map of Cornwall), and 1 lithographed plate of a longitudinal section of a mine. Modern full calf by Period Bookbinders of Bath, double gilt fillet on sides, double gilt rules on spine, red morocco label, cloth solander box.

£1600

FIRST EDITION IN BOOK FORM, and the only known complete copy. The physician Sir John Forbes spent five years in Cornwall as a general practitioner and physician to the Penzance Public Dispensary. While there he published the first English translation of Laennec's *De l'Auscultation Médiate* (1819).

Twelve years after leaving Cornwall he published the present medical study of that part of Cornwall known as the hundred of Penwith in order to trace the causes of disease in that area. It is in two parts, comprising its natural history and economic history and the statistical results of these influences on the inhabitants, and in part two the medical history of the inhabitants. Among the many aspects of its study are the geology, climate and botany, and the occupational diseases of the region, many of the inhabitants being employed in fishing, mining and agriculture.

This very rare work first appeared as two papers in the *Transactions of the Provincial Medical and Surgical Association.* There are no complete copies in COPAC which records 2 copies, one of which has the first part (119 pages) only and the other, which is probably Forbes' own copy, the second part only. Neither copy is in the British Library.

54. FREER, George. Observations on Aneurism, and some diseases of the arterial system. Birmingham: Printed by Knott & Lloyd… 1807.

4to, pp. viii, 116, and 5 engraved plates (4 hand-coloured) by Eginton from drawings by Hodgson, 1 small woodcut on p. 112. Lacking the half-title. Old library stamp on each plate, tear in blank area of plate 3 neatly repaired, light foxing on the first three leaves, a few spots at the end. Good modern half calf antique.

£1100

SOLE EDITION. A very rare, important, and practically unknown work, with engraved plates from drawings by Freer's apprentice at Birmingham, Joseph Hodgson, whose illustrations for his own work on the same subject published in 1815 (in which he described "Hodgson's disease") are described as the best illustrations of aneurysms published to date.

Freer gives a valuable account of the diseases of the arteries, and describes in detail the case of J. M'Donald on whom Freer operated for a large aneurysm of the femoral artery. Freer had not seen Scarpa's classic work on aneurysm (1804) when he claimed in this book that his ligation of the iliac artery in that case was "the first case on record, wherein this operation completely succeeded" (p. 79).

First Medical Book by an Englishman

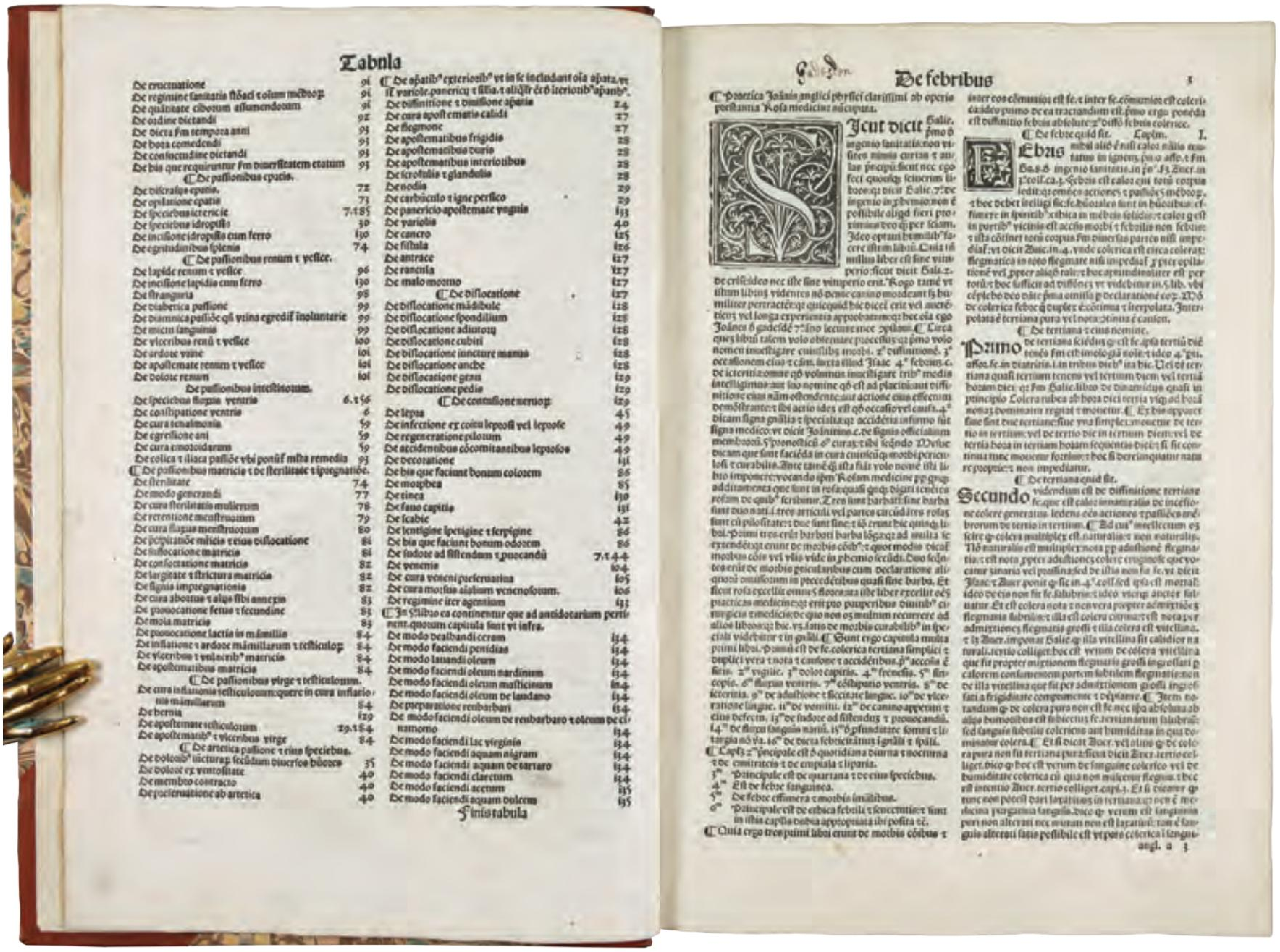
55. GADDESDEN, John of. Rosa Anglica practica medicine a capite ad pedes noviter impressa & per diligentissime emendata. [Colophon:] Impressa Venetiis [Venice]: expensis heredum… Octaviani Scoti…per Bonetum Locatellum… January 1502.

Small folio, 136 leaves including the final blank. Text in double columns, woodcut initials, publisher's device at foot of last page. 20th century half calf. A few very minor marks, but a fine copy. Small stamp of the Selbourne Library in lower margin of two leaves, bookplate of the Royal College of Physicians and Surgeons of Glasgow.

£18,000

Second edition of the first printed medical book by an Englishman.

continued...



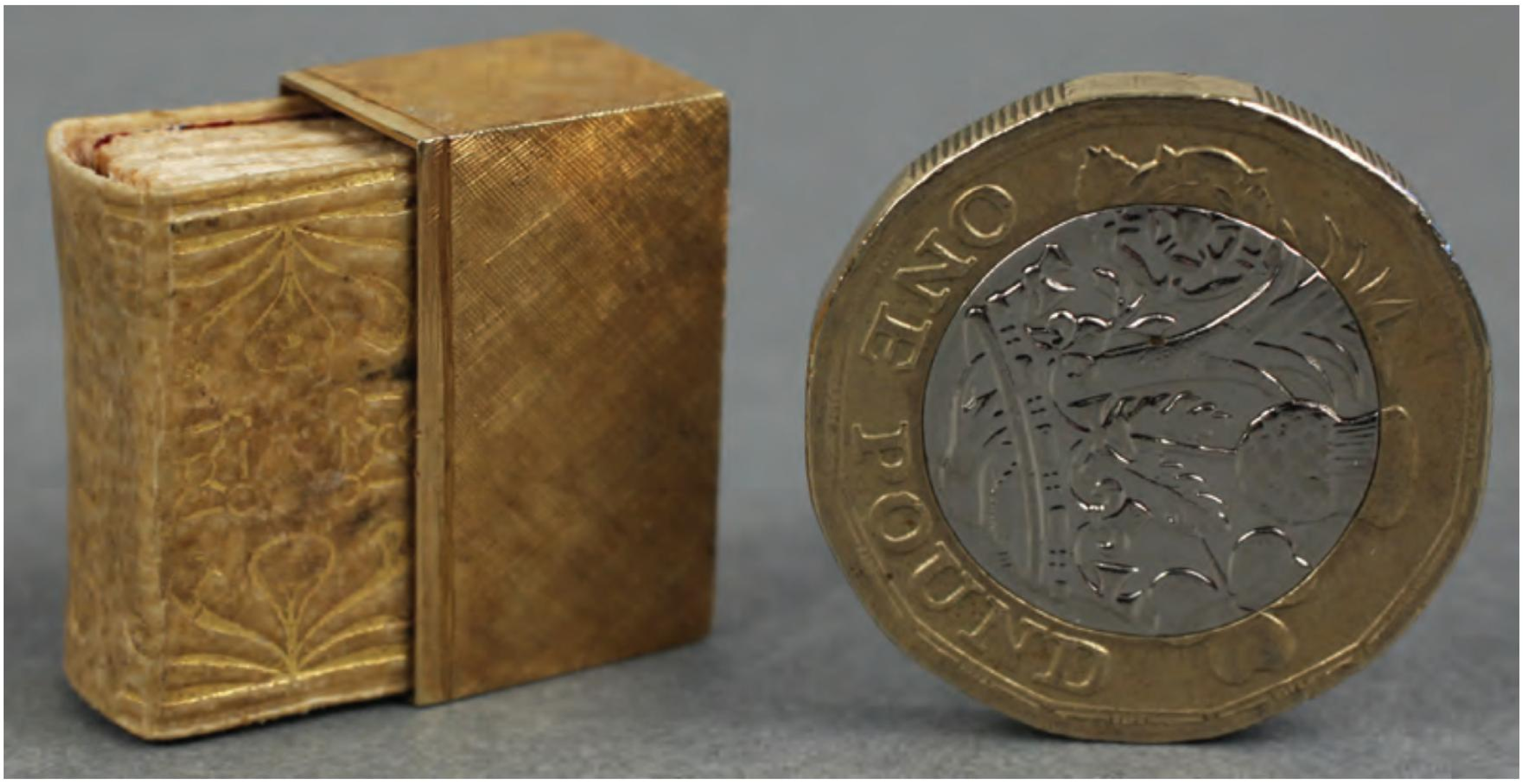
55 John of Gaddesden

John of Gaddesden (d. 1348 or 1349) was a court physician who left a considerable reputation. He was the first major medical scholar to have been trained wholly in England, and the only Oxford-trained medieval physician to achieve recognition on the Continent. He practised the arts of the surgeon and barber-surgeon as well as those of the physician. His *Rosa Anglica*, written in about 1313, was a distillation of the works of more than forty-six medical authorities, ancient and recent, but it also contains a good many original remarks which illustrate the character of the author more than his medical knowledge. The book begins with an account of fevers based on Galen's arrangement, then goes through diseases and injuries beginning with the head. The last part is on wounds, fractures, hernias, etc. The work ends with an antidotarium or treatise on remedies (see *DNB* and *ODNB*).

The book contains some remarks on cooking, and innumerable prescriptions, many of which are superstitious, while others prove to be common-sense remedies when carefully considered. He included "the familiar skin diseases and made some interesting observations, including reference to the use of red light in the treatment of smallpox, which was revived on scientific grounds by Finson six hundred years later" (Pusey, *History of dermatology*, p. 38).

His disposition and his peculiarities are so precisely those of the 'Doctour of Physik' in Chaucer's prologue, where he is mentioned in line 434, that it seems possible that Gaddesden is the contemporary from whom Chaucer drew this character.

See G&M 2191 for the first edition (Pavia, 1492), edited by Nicolaus Scyllatius, whose preface appears on the verso of the title-page in the present edition. The second leaf is a list of contents.



56 Galilei

The Smallest Printed Scientific Book

56. GALILEI, Galileo. Galileo a Madama Cristina di Lorena (1615). Padova [Padua]: Tipogr. Salmin, 1896 [Colophon: May 1897].

19mm. x 12mm. (page size), 1 leaf (woodcut portrait of Galileo), pp. 205, (2). The imprint is on the verso of the title. Contemporary vellum (upper inner hinge broken), decorated and lettered on the spine in gilt. In a gold-coloured metal slipcase.

£2500

First published in 1636 (outside Italy and twenty-one years after it was written) as the *Nov-Antiqua,* this letter to Cristina, Grand Duchess of Tuscany, is Galileo's argument for the freedom of science from theological interference. It is "a superb manifesto of the freedom of thought… Its purpose was to silence all theological objections to Copernicus. Its result was the precise opposite: it became the principal cause of the prohibition of Copernicus, and of Galileo's downfall" (Koestler). Galileo argued "that neither the Bible nor nature could speak falsely, and that the investigation of nature was the province of the scientist, while the reconciliation of scientific facts with the language of the Bible was that of the theologian" (*DSB*). The year after it was written Copernicus's *De revolutionibus* was placed on the Index of forbidden books, and Galileo was himself summoned before the Inquisition.

This tiny book is one of the most famous miniature books in existence, and probably the smallest printed scientific book. At one time it was the smallest book printed with movable type. It is set in the exceedingly small "occhio di mosca" (fly's eye) Dantino type created by the Salmin press for their complete edition of Dante.

Welsh, *A bibliography of miniature books*, 2935. Spielmann, *Catalogue of the library of miniature books*, 161. Bondy, *Miniature books*, pp. 95–96. Not in Cinti.

57. GALTON, Sir Douglas [Strutt]. Healthy Hospitals. Observations on some points connected with hospital construction. Oxford: at the Clarendon Press… 1893.

8vo, pp. xi, 287, + 8 pages of publisher's adverts at the end. Illustrations in the text. Original olive-green cloth (upper inner hinge previously damaged with neat repair to two tears in endpaper), black endpapers, uncut and partly unopened.

£160

FIRST EDITION. Includes a "List of some of the books consulted…"

58. GALTON, Sir Douglas [Strutt]. Observations on the Construction of Healthy Dwellings namely houses, hospitals, barracks, asylums, etc. Oxford: at the Clarendon Press, 1880.

8vo, pp. xi, 296, + 36 pages of adverts dated July 1880. Illustrations and plans in the text. Original olive-green cloth, black endpapers, uncut. Some very slight foxing on the first and last pages, otherwise a clean copy. Author's complimentary card loosely inserted. Signature 'Belper' on front endpaper. A family copy: Galton's father-in-law was the uncle of Edward Strutt, first Lord Belper.

£200

FIRST EDITION. G&M 1621. "Perhaps Galton's most important work, however, was in the development of sanitary engineering. The Herbert Hospital at Woolwich was designed by him when he was at the War Office, and many improvements in barracks and hospitals were due to his initiative… Galton published several books on the role of sanitary engineering in the construction of hospitals and homes, as well as several reports on sewage and drainage. He was among the first and strongest supporters of the Parkes Museum and was chairman of its council from 1882 to 1888. He was also a member of the Sanitary Institute of Great Britain, and acted as chairman of its council from 1885 to 1887" (*ODNB*).

59. GILLIES, Harold D[elf]. Plastic Surgery of the Face based on selected cases of war injuries of the face including burns with original illustrations. With chapter on the prosthetic problems of plastic surgery by Capt. W. Kelsey Fry and remarks on anaesthesia by Capt. R. Wade. London: Henry Frowde [&] Hodder and Stoughton…, 1920.

Large 4to, pp. (ii) blank, xiii, 408. Numerous text illustrations. Original red cloth (two small holes in cloth on upper cover, a few small scratches), a very clean copy.

£950

FIRST EDITION. G&M 5758. One of the finest books on plastic surgery published in the twentieth century. Gillies devised a method for enhancing survival of skin grafts by converting pedicled skin grafts into tubes. He drew on the large number of severe injuries sustained during the First World War as his patients, and was later knighted for his work.

60. GLISSON, Francis, *and others***.** A Treatise of the Rickets: being a diseas common to children. Wherin (among other things) is shewed, 1. The essence 2. The causes 3. The signs 4. The remedies of the diseas. Published in Latin by Francis Glisson, George Bate, and Ahasuerus Regemorter; doctors in physick, and Fellows of the Colledg of Physitians at London. Translated into English by Phil. Armin. London: Printed by Peter Cole… 1651.

Small 8vo, pp. (viii), 283, 294–373, (4). Title within typographical border, a few woodcut illustrations in the text. Woodcut on p. 320 cropped (as usual?, being larger than the text) but several lower margins still uncut, a few paper flaws without loss, paper slightly browned. Contemporary mottled sheep (a few wormholes in the lower cover), competently rebacked in the mid-twentieth century with morocco and with new endpapers, three of the four original endpapers preserved, tips of corners neatly repaired with sheep. Signatures of Henry Chapman, 1656, and Henry Wyles(?) on original front endpaper.

£6250

FIRST EDITION IN ENGLISH. G&M 3729 and 4297.91 (first edition of the year before). Although preceded by Whistler and Boot, Glisson's was the fullest and most important account of rickets to have appeared. He also described infantile scurvy for the first time. In his clinical descriptions, Glisson was one of the earliest to emphasise the importance of morbid anatomy. He included a detailed study of the biomechanics of deformed bones and joints, and an early study of the pathologic anatomy of scoliosis. He used braces, splints and shoes to straighten bowed legs and curved spines, and advocated exercise and massage to overcome muscular weakness. In attempting to correct the deformities of rickets, Glisson's work did much to advance the treatment of distortions in general.

In 1645 the Royal College of Physicians commissioned a book on rickets, at that time considered a new disease. Having eight contributors, the book was one of the earliest instances of collaborative medical research in England. Glisson, however, was by far the major contributor and editor (and his

continued...

first book), but his chief collaborators, George Bate and Ahasuerus Regemorter, are also named on the title-page. With the exception of Caius on the sweating sickness, a much less thorough treatise, this was the first monograph on a single disease published in England, and hence one of the earliest published works on deficiency diseases. It was universally acknowledged as a classic account, and Norman Moore in the *DNB* described it as "one of the glories of English medicine".

This English edition is exceedingly rare. Only two copies are recorded as having appeared at auction since 1902 (both with damaged or lacking title-pages). Not in Krivatsy (but the library has an imperfect copy). Wing G860, recording only two copies outside England; even so some of these may be the "corrected, and very much enlarged edition" also dated 1651, which is not in Wing. See Major, *Classic descriptions of disease,* pp. 597–600. Still, *History of paediatrics,* pp. 214–227. Ruhräh pp. 254–284. Bick, *Classics of orthopaedics*, 63. Bick, *Source book,* pp. 56–58.

61. GORING, C.R. & Andrew PRITCHARD. Micrographia: containing practical essays on reflecting, solar, oxyhydrogen gas microscopes; micrometers; eye-pieces, &c. &c. London: Whittaker and Co… 1837.

8vo, pp. viii, 231, 3 engraved plates from drawings by Goring (one double-page and bound as a frontispiece). Figures in the text. Slight spotting on the plates. Original(?) maroon cloth with recent calf spine and endpapers.

£280

FIRST EDITION. Following Goring & Pritchard's collaboration on their important *Natural history of…living objects for the microscope* (1829), the present book is concerned more with the instruments themselves. It contains two memoirs at the end, one by Francis Bauer on drawing microscopic subjects, and the other by Rev. J.B. Reade on illuminating microscopic objects.

62. GRAAF, Regnier de. De Succo Pancreatico: Or, a physical and anatomical treatise of the nature and office of the Pancreatick Juice; shewing its generation in the body, what diseases arise by its vitiation; from whence in particular, by plain and familiar examples, is accurately demonstrated, the causes and cures of agues, or intermitting feavers, hitherto so difficult and uncertain: with sundry other things worthy of note. Written by D. Reg. de Graaf, physician of Delph, and translated by Christopher Pack, Med. Lond. London: Printed for N. Brock… 1676.

8vo, 12 leaves, pp. 151, (17), and 3 engraved plates (2 folding). Title within double ruled border with publisher's woodcut device. Folding plates somewhat soiled and creased. Contemporary panelled calf, nicely rebacked, gilt edges (tips of corners worn). Manuscript ex libris of Thomas Lucas, 1727, on front pastedown and with his initials in blind on both covers.

£3800

FIRST EDITION IN ENGLISH. See G&M 974 (the first, exceedingly rare, edition of 1664). The first canalisation of the pancreatic duct. De Graaf was one of the earliest investigators of the pancreatic secretion. He collected the pancreatic juice of dogs by means of introducing a temporary cannula, made from the quill of a duck, into the pancreatic duct of a living dog. He studied the liquid so obtained, commenting on the small quantity secreted and on its apparent properties. He discusses the uses of this juice in digestion. He compared it with human pancreatic juice and found the two to have identical properties. "De Graaf's account of his unsuccessful attempts to collect pancreatic juice, followed by his eventual success, is one of the most interesting passages in the history of the experimental method…" (Foster).

Wing G1463. Foster, *Lectures on the history of physiology,* pp. 153–157, and *Selected Readings in the History of Physiology*, pp. 166–168. Russell, *British anatomy*, 329. Norman catalogue 924 (this copy). This was the only English edition, and while not as difficult to find as the first edition, it is still of considerable rarity.

63. GREGORY, David. Catoptricae et Dioptricae Sphericae Elementa. Oxonii [Oxford]: E Theatro Sheldoniano, 1695.

Small 8vo, pp. (iv), 99. Engraved vignette on title, woodcut diagrams in the text, including some full-page. Contemporary mottled calf (spine and corners neatly repaired), red edges, marbled endpapers. Title-page a little stained, but a nice copy.

£2500

FIRST EDITION. Gregory's "*Catoptricae et Dioptricae Sphericae Elementa* (1695) are printed versions of elementary lectures given at Edinburgh in the 1680s…often singled out for its appended remark (p. 98) suggesting, on the analogy of the crystalline and vitreous humours 'in the Fabrick of the Eye', that an achromatic compound lens might be formed by combining simple lenses of different media, but this insight he might well have had from Newton" (*DSB*).

DiLaura, *Bibliotheca Opticoria*, 210: "The notes cover geometrical optics of plane and curved mirrors; images from mirrors; refraction; geometrical optics of refraction at spherical surfaces; images formed by lenses of convex and concave figure; images formed by multiple lenses… The material is concise, detailed, and a mixture of experiment and mathematics including fluxions."

Discovery of Optical Diffraction

64. GRIMALDI, Francisco Maria. Physico-Mathesis de Lumine, Coloribus, et Iride, aliisque sequenti pagina indicatis. Bononiae [Bologna]: Ex Typographia Haeredis Victorii Benatii, 1665.

4to, 10 leaves, 535 pages, 8 leaves. Without the letterpress title-page (see below). Title-page printed in red and black with a large engraved vignette and additionally ruled in red by a contemporary hand. Text in double columns, diagrams and a few woodcuts in the text, divisional title to the second Book, woodcut ornaments. Contemporary vellum, spine lettered in ink (twice). Vellum a little dust-soiled, but a lovely, clean copy. Signature of William Jones (see below) in upper corner of title; Macclesfield bookplate on front pastedowm with shelfmark on free endpaper and small blind-stamp on first two leaves; bookplate of David L. DiLaura.

£22,000

FIRST EDITION in which Grimaldi announced his discovery, and proved the existence, of optical diffraction, a term he also coined. This is among the rarest of the great books on optics, and it marks the first scientific attempt to establish a comprehensive wave theory of light.

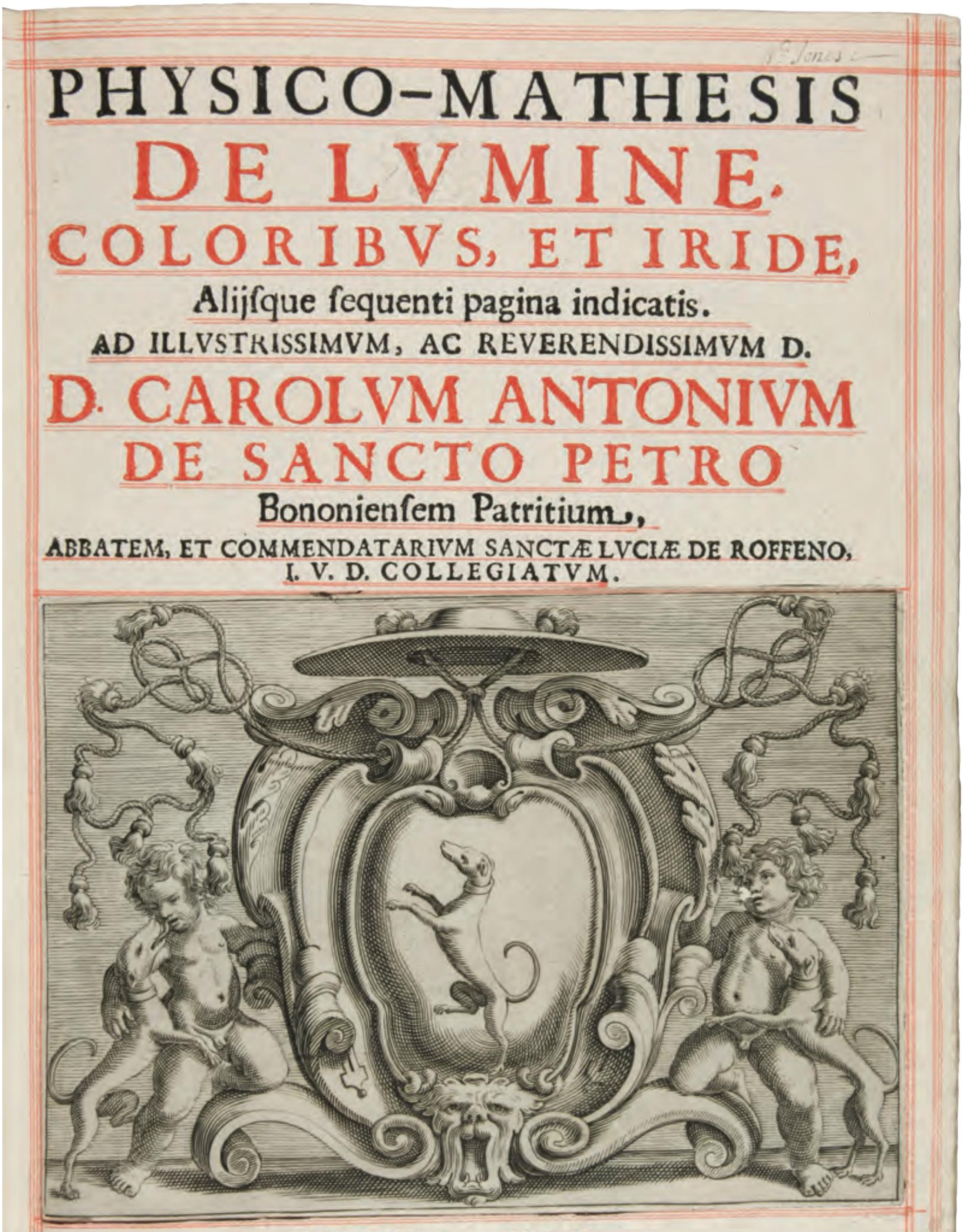
The diffraction experiments which Grimaldi describes here show that "a new mode of transmission of light had been discovered and that this mode contradicts the notion of an exclusively rectilinear passage of light. Diffraction thus gave prima facie evidence for a fluid nature of light. The name 'diffraction' come from the loss of uniformity observed in a flow of stream of water as it 'splits apart' around a slender obstacle placed in its path" (*DSB*).

Grimaldi repeatedly states that colours are not something different from light, but are modifications of it produced by the fine structure of the bodies which reflect it, and probably involving an alteration of the type of motion and velocity of the light. The periodic nature of light did not occur to Grimaldi (it was left to Newton in 1704 to prove the periodic nature of light), but his book was of fundamental importance for the subsequent development of optics.

The book was issued with two title-pages, but in this copy the second (letterpress) title (a1) has been excised and discarded as unnecessary, probably at the time of binding. It is in all other respects a wonderful copy.

Provenance: William Jones (1675–1749), mathematician and fellow of the Royal Society, who was trusted by Newton to publish his *Analysis per quantitatum series* (1711). Jones's one time pupil was the Earl of Macclesfield; later Jones was on the staff at Shirburn Castle.

Parkinson, *Breakthroughs*, 1665. DiLaura, *Bibliotheca Opticoria*, 135. Becker catalogue 162.3. See *DSB* for a full account of this book.



Jones

PHYSICO-MATHESIS
DE LVMINE,
COLORIBVS, ET IRIDE,
Alijſque ſequenti pagina indicatis.
AD ILLVSTRISSIMVM, AC REVERENDISSIMVM D.
D. CAROLVM ANTONIVM
DE SANCTO PETRO
Bononienſem Patritium,
ABBATEM, ET COMMENDATARIVM SANCTÆ LVCIÆ DE ROFFENO,
I. V. D. COLLEGIATVM.

BONONIÆ, M. DC. LXV.

Ex Typograpiha Hæredis Victorij Benatij. Superiorum permiſſu.

64 Grimaldi

65. HARDY, Alfred, & A. de MONTMÉJA. Clinique Photographique des Maladies de la Peau. Troisième édition… Paris: H. Lauwereyns… 1882.

4to, 2 leaves (half-title and title), pp. iii, 128, and 60 woodburytype photographs by Montméja, many partially hand-coloured, mounted on printed cards. Foxing on the text leaves (heavier on the first and last few leaves) with light offsetting on the card mounts. Recent brown cloth, brown morocco label, t.e.g.

£4250

THIRD AND BEST EDITION, with 60 plates (there were 50 in the first edition) and using, as Montméja says in the preface, recent improvements in photographic technique.

This was the first French dermatological book to be illustrated with photographs. Montméja was a former army surgeon and head of the ophthalmology clinic at the Hôpital Saint-Louis. He learned photography specifically for Hardy's project and set up a special studio for the purpose. Each image is accompanied by Hardy's text describing the condition. Hardy, professor of clinical medicine at the faculty of medicine in Paris, was the last of the group comprising the French school which developed modern clinical dermatology, "…a fact of the first importance in the history of modern dermatology" (Pusey, p. 85).

See G&M 6872 for the first edition of 1867–1868, issued in parts with a slightly different title. Pusey, *The history of dermatology,* pp. 83–85.

66. HARTREE, Douglas R. The ENIAC, an Electronic Computing Machine. [In:] Nature, vol. 158, pp. 500–506, October 12 1946.

Large 8vo, pp. lii, 956. Black buckram, spine lettered in gilt, library bookplate. The whole volume is offered, of which Hartree's paper occupies pp. 500–506, with 3 photographic illustrations.

£250

FIRST EDITION. "The first paper on an electronic digital computer published in a large-circulation international scientific journal." Hartree, a British mathematician, first learned of ENIAC in 1945, and the following year became the first Englishman to work with the machine. "He was the first to bring news of ENIAC to Great Britain, publishing the above article in *Nature* shortly after his return from the United States." Hook & Norman, *Origins of cyberspace*, 648.

67. HELLOT, [Jean], [Pierre-Joseph] MACQUER, & LE PILEUR D'APLIGNY. The Art of Dying Wool, Silk, and Cotton. Translated from the French of… London: Printed for R. Baldwin… 1789.

8vo, pp. x, (vii), 206, 209–508, (4) adverts, and 6 engraved plates. Contemporary red morocco (joints and ends of spine very neatly repaired), flat spine richly gilt and with green morocco label, sides with rope-twist borders, marbled endpapers.

£1800

Second edition in English (but see below) of this collection, consisting of three separate works: Jean Hellot's *L'art de la teinture des laines* (1750), Pierre-Joseph Macquer's *L'art de la teinture en soie* (1763), and Le Pileur d'Apligny's *L'art de la teinture des fils et étoffes de coton* (1776). These are three of the thirteen key works in the history of dyeing published before 1856 (Edelstein), and "the major importance of [Hellot's] book lay in the careful discussion of techniques which made it a standard work for the remainder of the century" (*DSB*).

The anonymous translator evidently considered the French dyers of the period, who were subject to regulation and inspection, to be superior to those in England, to whom these authoritative works were unknown. Only the work by Hellot had been translated before (Dublin, 1767), but the present translator considered that translation very inferior. The book is dedicated to the Society of Arts, Manufactures, and Commerce.

This collection was first published in Paris in 1785, but that edition is very rare, ESTC recording only 2 copies. It is possible that the sheets of the two editions are the same.

Cole 615. Neville I, p. 607 (lacking the final advert leaves). Edelstein, *Historical notes on the wet-processing industry,* pp. 83–85.

The Stars of the Southern Hemisphere

68. **HERSCHEL, Sir John F.W.** Results of Astronomical Observations made during the years 1834, 5, 6, 7, 8, at the Cape of Good Hope; being the completion of a telescopic survey of the whole surface of the visible heavens, commenced in 1825… London: Published by Smith Elder and Co., Cornhill. 1847.

Large 4to, 3 leaves, pp. (v–xx), 452, (2) errata, (2) adverts, lithographed frontispiece of the telescope and 17 engraved or lithographed plates (4 folding) mostly from drawings by the author. Original green blindstamped cloth, t.e.g. Half-title and final advert leaf browned, otherwise a fine and clean copy.

£1500

FIRST EDITION of Herschel's monumental survey of the stars of the southern hemisphere, completing the task begun by his father William, who fifty years earlier had catalogued the northern celestial hemisphere.

Herschel selected the Cape of Good Hope for the site of this project, and spent five years there. Using a 20-foot reflecting telescope brought from England, he swept the whole of the southern sky. By the time he left in 1838 he had catalogued 1,707 nebulae and clusters, and listed 2,102 pairs of binary stars. He carried out star counts, on William Herschel's plan, of 68,948 stars in 3,000 sky areas. He produced detailed sketches and maps of several objects,, including the Orion region, the Eta Carinae nebula, and the Megallanic Clouds, and extremely accurate drawings of many extragalactic and planetary nebulae. He recorded in detail the brightening behaviour of Eta Carinae in December 1837. Herschel invented a device called an astrometer, and with it introduced numerical measurements into stellar photometry. See *DSB* 6, p. 326 and *ODNB* for long accounts of Herschel's time in South Africa.

Norman catalogue 1056. This was Herschel's *magnum opus.*

69. **HEURCK, Henri van.** The Microscope: its construction and management. Including technique, photo-micrography, and the past and future of the microscope. English edition, re-edited and augmented by the author…and translated by Wynne E. Baxter. London: Crosby Lockwood and Son… 1893.

Large 8vo, pp. xv, 382, (2) blank, photogravure frontispiece portrait of the author. With more than 220 illustrations in the text. Original green cloth, lettered in gilt and with a microscope in gilt on the upper cover, t.e.g., other edges uncut. Two minor marks on the upper cover, inner hinges just cracking, minor foxing on the first and last two leaves, otherwise a very good copy of this handsome book.

£240

FIRST EDITION IN ENGLISH. "…the English translation is a particularly handsome volume of 382 large pages. A part is devoted to the preparation of objects, and six types of microtome are included. This work remains one of the classics of microscopy" (Bracegirdle, *History of microtechnique*, p. 52).

70. **HIPPOCRATES.** The Prognostics and Prorrhetics of Hippocrates; translated from the original Greek: with large annotations, critical and explanatory: to which is prefixed a short account of the life of Hippocrates: by John Moffat, M.D. translator of Aretæus. London: Printed by T. Bensley; for C. Elliot,... 1788.

8vo, pp. (iii)–xx, 292. Lacking the half-title, otherwise a good copy. Modern half calf antique.

£650

First edition of this translation; the *Prognostics* had previously appeared in English in Clifton's translation of 1734. The *Prognostics* is one of the most important of the Hippocratic writings, and the first book of the *Prorrhetics* is the oldest. "The dignity of the Greek physician was based more upon his supposed ability to predict clinical and epidemiological happenings than upon his power to control them. To this end, Hippocrates instituted, for the first time, a careful, systematic and thorough-going examination of the patient's condition, including the facial appearance, pulse, temperature, respiration, excreta, sputum, localized pains, and movements of the body... He introduced the doctrines of the four humors (humoral pathology), coction of food in the stomach, healing by first intention; and divided diseases into acute and chronic, endemic and epidemic" (Garrison, pp. 96–97).

The Oldest Hospital in France

71. HÔTEL-DIEU de LYON. La forme de la Direction et Oeconomie du grand Hostel-Dieu de Nostre-Dame de Pitié du Pont du Rhosne de la ville de Lyon. A Lyon: [no printer or publisher,] 1661.

4to, 6 leaves, 116 pages. With a full-page engraving of Mary with the body of Jesus on a2, woodcut device on title, woodcut headpieces and initials. Contemporary limp vellum, some minor worming in the upper margin and pastedown endpapers, but a nice copy.

£550

Second edition (see below) of the book which defines the duties of all those who worked at the Hôtel-Dieu in Lyon, the oldest and one of the most important hospitals in France.

Drawn up by the rectors of the hospital, this book lists the responsibilities of the rectors in charge of various departments, and of all those who worked in them, both non-medical and medical, including the surgeon, the apothecary, the paediatrician, and the midwife. Several chapters are devoted to those with culinary duties.

The Hôtel-Dieu was founded in 542, but became a fully functional hospital after 1454. It was the first French hospital to treat syphilitic patients, in 1495. It was enlarged in the 17th century and rebuilt in the 18th as a magnificent edifice, which became the best hospital in France. It ceased to function as a hospital in 2010 and is now a hotel.

The BnF lists only one earlier edition, in 1646.

72. HUTCHINSON, Sir Jonathan. A Clinical Memoir on certain Diseases of the Eye and Ear, consequent on inherited syphilis; with an appended chapter of commentaries on the transmission of syphilis from parent to offspring… London: John Churchill… 1863.

8vo, pp. xii, 259, (1), 2 chromolithographed plates each with an additional leaf of text. Half-title. 20th-century quarter calf and marbled sides, spine with gilt rules, gilt centres and red morocco label, uncut. Fore-edges of first and least few leaves slightly chipped, paper slightly browned at edges. Signature of W,C. Wilkinson on haf-title and title; signature of Thomas Cammack, 1870, on half-title; later library stamp on verso of title.

£650

FIRST EDITION, including the first complete account of "Hutchinson's triad" (interstitial keratitis, notched incisors and labyrinthine disease) in congenital syphilis. See G&M 2386, the journal article published five years before this book. Hutchinson was a leading authority in several fields of medicine, but he is especially notable for his work on hereditary syphilis.

Albert, Norton & Hurtes, *Source book of ophthalmology,* 1147.

The Wave Theory of Light

73. HUYGENS, Christiaan. Traité de la Lumiere. Où sont expliquées les causes de ce qui luy arrive dans la reflexion, & dans la refraction. Et particulierement dans l'etrange refraction du Cristal D'Islande. Par C.H.D.Z. Avec un discours de la cause de la Pesanteur. A Leide: Chez Pierre Vander Aa,… 1690.

4to, pp. (viii), 124; 1 leaf (divisional title), pp. 125–128, (2) contents, 129–180. General title printed in red and black, printer's woodcut device on both titles, many diagrams in the text. Contemporary vellum. Old library stamp on title, old typographical Florentine bookplate on front pastedown; bookplate of David L. Dilaura. Paper very slightly browned except for signature R, but a fine copy.

£45,500

FIRST EDITION. One of the great classics in the literature of optics. In this book Huygens first established the wave or pulse theory of light, in opposition to the corpuscular theory advanced by Newton. He propounded what is now known as "Huygens' principle" which enabled him to explain the reflection and refraction of light on the basis of his undulatory theory. Chapter V contains Huygens' analysis of the double refraction which Erasmus Bartholin had observed in crystals of Iceland spar in 1670. He described the polarisation of light, but was unable to explain it. Huygens completed the *Traité* in 1678, but chose not to publish it until prompted to do so by the publication

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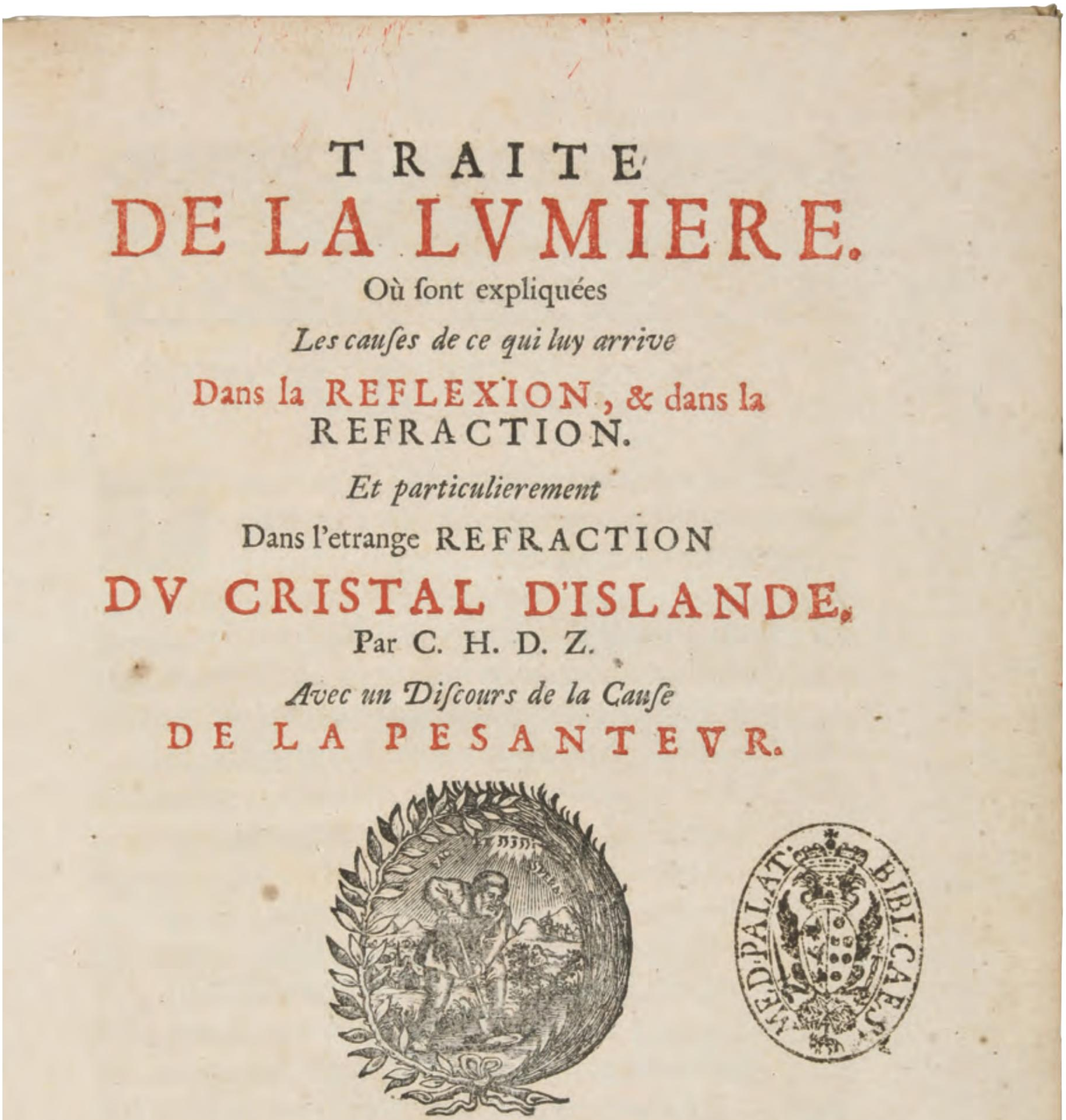


TRAITE
DE LA LVMIERE.
Où ſont expliquées
Les cauſes de ce qui luy arrive
Dans la REFLEXION, & dans la
REFRACTION.
Et particulierement
Dans l'etrange REFRACTION
DV CRISTAL D'ISLANDE,
Par C. H. D. Z.
Avec un Diſcours de la Cauſe
DE LA PESANTEVR.

MED.PALAT. BIBL.CAES.

A LEIDE,
Chez PIERRE VANDER AA, Marchand Libraire.
MDCXC.

73 Huygens

of Newton's *Principia* in 1687 and by a meeting with Newton in June of 1689. Huygens' work remained unaccepted and in opposition to Newton for over a century until Thomas Young used it to explain optical interference. Modern physicists fuse both theories.

The second part of this book, *Discours de la Cause de la Pesanteur*, contains Huygens' mechanical explanation of gravity.

Horblit 54. Dibner 146. Evans, *Epochal Achievements,* 32. Parkinson, *Breakthroughs*, 1690. Sparrow, *Milestones of Science*, 111. DiLaura, *Bibliotheca Opticoria*, 198. Wolf, *History of Science,* I, pp. 260–264 (with several reproductions). Norman catalogue 1139.

There are two issues of the title-page: one has the author's initials only (as in the present copy), and the other has his name in full. No priority has been established, but the issue with his initials only is more likely to be the first.

The "Wild" Boy of Aveyron

74. ITARD, E.M. [i.e. **Jean Marie Gaspard**]. De L'Éducation d'un Homme Sauvage, ou des premiers développemens physiques et moraux du jeune sauvage de l'Aveyron. A Paris: Chez Goujon fils… 1801.

8vo, pp. (iv), 100, 4, stipple-engraved frontispiece portrait. Signed by the author and the publisher on the verso of title-page to prevent piracy. Contemporary English mottled calf (rubbed, upper joint cracked but quite firm, one upper corner a little worn), single gilt fillet on sides, flat spine gilt (but gilt mostly rubbed away), red morocco label, marbled endpapers, red edges. Armorial bookplate of the Marquess of Headfort; the monogram RT and Headfort crest at top of spine; inscribed "General Taylor" at top of half-title.

£4500

FIRST EDITION. A pupil of Pinel, Itard attempted to educate a young "wild" boy, who had lived since infancy entirely apart from human contact, and who had been found living in the woods near Aveyron. Itard's methods were based on Condillac's analytical approach to the acquisition of knowledge, which had been used with success in teaching deaf-mutes. However in adapting this approach, Itard created an entirely new system of pedagogy which has profoundly influenced modern educational methods. Itard's methods were adopted by his student Édouard Séguin, who applied them successfully to educating the mentally retarded, and by Maria Montessori, who applied them to childhood education in general.

The optimism which Itard displayed in this first report of this extraordinary event was not borne out, and in his second report of 1807 he was forced to conclude that the boy was incapable of learning speech, an irreversible result of prolonged isolation during a crucial period of his early childhood.

G&M 4969.1 and Norman Catalogue 1144. Much has been written on this event, but a particularly good account is Harlan Lane's *The Wild Boy of Aveyron,* 1977.

75. ITARD, E.M. [i.e. **Jean Marie Gaspard**]. An Historical Account of the Discovery and Education of a Savage Man, or of the first developments, physical and moral, of the young savage caught in the woods near Aveyron, in the year 1798. London: Printed for Richard Phillips… 1802.

Small 8vo, pp. 148, (4) adverts, stipple-engraved frontispiece portrait. Good modern half calf antique, uncut. Short tear in fore edge margin of last text leaf just touching two letters neatly repaired, but a nice copy. Old ink stamp in margin of pp. 6–7, blind library stamp on frontispiece, lower corner of title and two leaves at end, brief cataloguing note dated 1909 on blank recto of frontispiece with slight show-through, very faint withdrawn stamp on verso of title.

£3600

FIRST EDITION IN ENGLISH of the previous item. This English translation, by Nogent, is extremely scarce.

Benjamin Franklin Invents the Wheel

76. JACOB, Joseph. Observations on the Structure and Draught of Wheel-Carriages. London: Printed for Edward and Charles Dilly, in the Poultry. 1773.

4to, 2 leaves (half-title and title), pp. iii, 2 leaves (contents), pp. 99, (1), and 14 folding and stilted engraved plates. Half-title and final errata page badly dust-soiled and creased, half-title with two short tears repaired, errata leaf with repair to upper inner corner (not touching text) and two small edge repairs, otherwise a clean copy. Red quarter morocco and cloth sides of the late 19th century, yellow patterned endpapers, spine lettered in gilt and with shelf-mark, Newport library bookplate. Provenance: 1: early signature of H. Mackworth at top of half-title (Sir Herbert Mackworth, 1737–1791, MP, FRS, and grandson of the industrial and mining entrepreneur Sir Humphry Mackworth). 2: small oval stamp of Newport library in south Wales, where Mackworth lived, on half-title, title, backs of plates, and a few elsewhere.

£900

SOLE EDITION. In this book Jacob discusses the construction of the mechanism of carriages, waggons and carts, including ways to decrease friction between the axle and the wheel, design of the axle, suspension, improved methods of turning, etc. On page 54 is a reference to ball bearings as an improvement to Wyatt's 'flat rollers' (roller bearings?), which is a very early reference to their use (the first recorded application of ball bearings was not until 1780, and they were patented in 1794).

Jacob and his business partner John Viney were wheel and coach manufacturers in London. Jacob had three patents, dated 1769, 1771 and 1774, all for improvements in carriage building. In this book Jacob also discusses improved ways of making wheels using a single piece of wood for the rim, a design originally suggested to Viney by his friend Benjamin Franklin, and recorded in the diary of John Adams, second president of the United Sates, who visited the business in 1786 with Thomas Jefferson. Jacob and Viney fell out over the design of the wheel, which Jacob initially rejected but later patented.

This uncut copy evidently lost its wrappers at an early stage and the unprotected half-title and final page became rather dust-soiled. The binding put on this copy by the Newport library would most probably be its first binding. Priced accordingly.

First Treatise on Protozoology

77. JOBLOT, Louis. Descriptions et Usages de plusieurs nouveaux Microscopes, tant simples que composez; avec de nouvelles observations faites sur une multitude innombrable d'insectes, & d'autres animaux de diverses especes, qui naissent dans des liqueurs préparées, & dans celles qui ne le sont point. Paris: Chez Jacques Collombat… 1718.

2 parts in 1 volume, 4to, pp. (xii), 78; 96, (5), and 34 engraved plates (numbered 1–22 and 1–12) of microscopes and microscopic objects. Woodcut and engraved headpieces, the first page of text is engraved. Contemporary mottled calf, spine gilt in compartments, red morocco label, marbled endpapers. Tip of one lower corner worn, but a fine copy.

£4200

FIRST EDITION. The first treatise on protozoa, and the book which established Joblot as the first French microscopist. This is also the first French book on microscopy. It is divided into two parts. The first part describes and illustrates several microscopes and their construction, introducing some improvements, such as stops (diaphragms) in compound microscopes to correct for chromatic aberration. The second part discusses Joblot's microscopical observations concerning mostly protozoa. Leeuwenhoek had observed protozoa previously, but Joblot's is the earliest treatise on them. In it he described and illustrated a large number of new types. Joblot was apparently the first to carry out experiments on heated infusions to see whether they were capable of producing animalculae, and thus anticipated the work of Spallanzani and Pasteur.

Bulloch, *History of bacteriology,* pp. 29–30 and 70–71: "…exceedingly scarce". Cole, *History of protozoology*, p. 15. Clay & Court, *History of the microscope*, pp. 57–61.

This first edition is rare; the book is rather better known by the second edition which appeared as late as 1754. This is a particularly good copy.

78. JOINT AIEE-IRE COMPUTER CONFERENCE. Review of Electronic Digital Computers. Papers and discussions presented at the Joint AIEE-IRE Computer Conference, Philadelphia, PA., December 10–12, 1951. New York: Published by the American Institute of Electrical Engineers, February 1952.

4to, 114 pages. Original grey printed wrappers (spine mostly missing, wrappers almost detached). Stamp of Imperial College London on title and several other stamps and stickers on title and upper wrapper; bookplate of University of London Computer Unit; bookplate of The Lyon Playfair Library, Imperial College, inside front wrapper and their accession label pasted to title-page.

£280

"The proceedings of the first…AIEE-ACM computer conference, sponsored jointly by the American Institute of Electrical Engineers and the Institute of Radio Engineers, with assistance from the fledgling Association for Computing Machinery…devoted to a review of electronic digital computers…

"The purpose of the 1951 conference, as outlined in W.H. MacWilliams's keynote address, was 'to assess the adequacy of the designs of present working high-speed digital computers in order to point out the direction which computer design should go, to make computers best for the jobs that they have been doing and for the jobs that they will have to do' (p. 5)" (from a long note in Hook & Norman, *Origins of cyberspace,* 740 (1).

79. JURIN, James. A Letter to the learned Caleb Cotesworth, M.D.…containing a comparison between the mortality of the natural small pox, and that given by inoculation. To which is subjoined, an account of the success of inoculation in New England… London: Printed for W. and J. Innys… 1723. [*Bound with:*]

[2] **JURIN, James.** An Account of the success of Inoculating the Small Pox in great Britain. With a comparison between the miscarriages in that practice, and the mortality of natural small-pox. London: Printed for J. Peele… 1724. [*And:*]
[3] **JURIN, James.** An Account of the Success of Inoculating the Small-Pox in Great Britain, for the year 1725. With a comparison…([etc., as above]. London: Printed for J. Peele… 1726. [*And:*]
[4] **JURIN, James.** An Account of the Success of Inoculating the Small-Pox in Great-Britain, for year 1726. With a comparison…[etc., as above]. London: Printed for J. Peele… 1727. [*And:*]
[5] **SCHEUCHZER, John Gasper.** An Account of the Success of Inoculating the Small-Pox in Great Britain, for the years 1727 and 1728. With a comparison…[etc., as above]; as also some general remarks on its progress since its first introduction… London: Printed for J. Peele… 1729. [*And:*]
[6] **KIRKPATRICK, James.** An Essay on Inoculation, occasioned by the small-pox being brought into South Carolina in the year 1738… By J. Kilpatrick. London: Printed for J. Huggonson… 1743.

6 works in 1 volume, 8vo. Eighteenth century quarter calf and marbled boards (a little rubbed), fine copies. With the fine armorial bookplate of Sir William Forbes of Pitsligo.

£3200

1. SOLE EDITION. G&M 1689: "Jurin was an enthusiastic supporter of inoculation against smallpox, and proved statistically that the fatality of inoculated smallpox is very much less than the fatality of natural smallpox. This is one of the earliest applications of statistics to a particular socio-medical problem." Pp. 31, (1).
2. SOLE EDITION of the first of Jurin's reports on the success of inoculation. Pp. (viii), 39, (1), with a half-title.
3. FIRST EDITION of Jurin's report of his success in inoculating for the smallpox in 1725. Pp. 66, (2), with a half-title and final 'Advertisement' leaf.
4. One of two editions in the same year of Jurin's report for inoculations in the year 1726. "Jurin calculated the relative odds of dying from smallpox inoculation (roughly 1 in 50) and natural

continued...

smallpox (roughly 1 in 7 or 8). He published the results of his calculations in a series of annual pamphlets entitled *An Account of the Success of Inoculating the Small-Pox,* which appeared from 1723 until 1727. Contemporaries were generally persuaded by Jurin's figures and his pamphlets were acknowledged as central to the establishment of smallpox inoculation in England" (*ODNB*). Pp. 26, (2), with a half-title and final 'Advertisement' leaf.

5. SOLE EDITION of Scheuchzer's continuation of Jurin's reports. It includes "an account of the success of inoculation in foreign parts", and an account of giving the smallpox "in the kingdoms of Tunis, Tripoli, and Algier. Written in Arabic by his Excellency Cassem Aga…" 63 pages, with a half-title.

6. SOLE EDITION. G&M 5416: "After its initial popularity, inoculation fell into disuse in England. Kirkpatrick, who became a prominent inoculator in England after experience in America, helped considerably in reviving its popularity. He attempted the attenuation of the virus by his arm-to-arm method of inoculation." Pp. (iv), 60, with a half-title.

A fine *sammelband* of some significant works in the early period of inoculation.

80. **[KENNEDY, Peter.]** Ophthalmographia; or, a Treatise of the Eye, in two parts. Part I. Containing a new and exact description of the eye; as also the theory of the vision considered, with its Diseases. Part II. Containing the signs, causes, and cure of the maladies incident to the eye. To which is added an appendix of some of the diseases of the ear; wherein is observed the communication between these two organs. London: Printed for Bernard Lintott… 1713.

8vo, pp. (xxiv), 109, (3), 1 folding engraved plate. With the half-title and final advertisement leaf. Title with double ruled border (slightly shaved at head), woodcut head- and tailpieces and initials. Good modern quarter calf antique. Old library stamp on title, small stain in lower margin of first few leaves, paper slightly browned, but a very good copy.

£1600

FIRST EDITION. "One of the few books in English which documents what the enlightened eighteenth century surgeon knew about the eye…the original copies have become extremely scarce… One of the most detailed and interesting portions of the discussion is his description of cataract and its treatment by couching… Kennedy makes a few original observations. These include finding that a scratched convex lens will, in a dark room, produce an image. Also floaters can, according to the laws of optics, not be reproduced by stationary particles in the aqueous, but are attributed, following the teaching of Pitcairne, to changes in the retinal blood vessels" (Albert pp. 3 and 13).

This is one of the few English books on ophthalmology of the seventeenth and early eighteenth centuries, which are mostly quite rare. Twenty-six years later Kennedy published *A supplement to Kennedy's Ophthalmographia*, which is even rarer. The brief appendix on diseases of the ear is one of the earliest English writings on otology.

Albert, Norton & Hurtes 1225. See James, *Studies in the History of Ophthalmology in England,* p. 90. Not in the Becker catalogue.

Kepler's First Book on Optics

81. **KEPLER, Johannes.** Ad Vitellionem paralipomena, quibus astronomiae pars optica traditur; potissimùm de artificiosa observatione et aestimatione diametrorum deliquiorumque; solis & lunae. Cum exemplis insignium eclipsium. Habes hoc libro, Lector, inter alia multa nova, tractatum luculentum de modo visionis, & humorum oculi visu, contra opticos & anatomicos,... Francofurti [Frankfurt]: Apud Claudium Marnium & Haeredes Joannis Aubrii, 1604.

4to, pp. (xvi), 449, (18) index and errata, 1 engraved plate of the eye and 1 leaf of explanatory text, 2 folding letterpress tables, numerous woodcut figures in the text. Upper outer corner of title-page neatly restored, tiny hole in lower part of title, signatures K and P browned (as usual) and light foxing elsewhere. 19th century red quarter morocco, spine gilt in compartments, marbled sides, marbled edges and endpapers, good copy. Bookplate of David L. DiLaura.

£22,000

continued...

FIRST EDITION of Kepler's first book on optics and a highly significant work in the history of ophthalmology in which he defined the optics and function of the eye. Kepler clearly defined the concept of the light ray, which was the foundation of modern geometrical optics, as well as the formation of images from pin-holes and the nature of images from mirrors and lenses.

The work is in two parts: the first part, which Kepler intended to be an appendix to Witelo (hence "Ad Vitellionem paralipomena") is "a treatise on vision and the human eye in which is shown for the first time how the retina is essential to sight, the part the lens plays in refraction, and that the convergence of luminous rays before reaching the retina is the cause of myopia" (Garrison p. 260). Kepler describes the nature of central and peripheral vision and demonstrates the part that the vitreous plays in keeping the retina taut.

The second part, the "Astronomiae Pars Optica", comprises six chapters which "include not only a discussion of parallax, astronomical refraction, and his eclipse instruments but also the annual variation in the apparent size of the sun. Since the changing size of the solar image is inversely proportional to the sun's distance, this key problem was closely related to his planetary theory; unfortunately his observational results were not decisive" (*DSB*).

This book contains "the first correct physiological explanation of the defects of sight, with a theory of vision, the first suggestion of the undulatory theory of light, an approximately correct formula of refraction (pointing out the relation between the sine of incident and refracted rays), the first announcement of one of the principal axioms of photometry, his method of calculating eclipses, still in use, etc. etc." (Sotheran 5300).

DiLaura, *Bibliotheca Opticoria,* 52. Caspar, *Bibliographia Kepleriana,* 18. Cinti, *Biblioteca Galileiana,* 13. Parkinson, *Breakthroughs*, 1604. Becker catalogue 216.1. Albert, Norton & Hurtes 1226.

Modern Optics

82. KEPLER, Johannes. Dioptrice seu demonstratio eorum quae visui & visibilibus propter conspicilla non ita pridem inventa accidunt. Praemissae epistolae Galilaei de iis, quae post editionem Nuncii Siderii ope perspicilli, nova & admiranda in coelo deprehensa sunt. Item Examen praefationis Joannis Penae Galli in Optica Euclidis, de usu optices in philosophia. Augustae Vindelicorum [Augsburg]: typis Davidis Franci, 1611.

4to, 4 leaves, pp. 28, 26, 2 leaves, pp. 27–80. The two leaves between pp. 26 and 27 are normally bound at the end but are bound here before p. 27 to which the text of the first leaf refers. Woodcut diagrams in the text. Old repair to title with loss of 2 letters of imprint, diminishing wormtrack in upper inner corner of first few leaves and in lower margin of gatherings B–D, dampstain in first 28 pages and a few leaves browned, inkstain on second p. 9, some other small marks and light foxing. Contemporary limp vellum (a bit soiled, spine torn, front endpapers creased and damaged). Stamp of Dr. Mario E. Spada on front pastedown.

£65,000

FIRST EDITION. The foundation work of modern optics and the earliest complete analysis of dioptrics. In 1610, Kepler was presented with a telescope, the gift of Ernest, Archbishop of Cologne, to whom the *Dioptrice* is dedicated. "With the energy peculiar to him, inside of a few weeks… [Kepler] composed a book tracing basically once and for all the laws governing the passage of light through lenses and systems of lenses. It is called *Dioptrice*, a word which Kepler himself coined and introduced into optics. The substance of this book has since become the common property of science and the possession, as a matter of course, of everyone who has examined optical questions to any extent. All the schematic figures, well known from physics textbooks, are found there…" (Caspar, *Kepler. Trans. C. Doris Hellman* [1959], pp. 198–199).

Kepler discovered total reflection and described for the first time spherical aberration and how it could be overcome by giving optical surfaces hyperboloidal forms. He showed, also for the first time, that an image must be sharply focused on the retina to be seen distinctly, a theory in contrast to some of his contemporaries who still believed the Euclidean idea that light proceed from the eye to the object. He presented the ideas of the real and virtual image, the upright and inverted image, and the magnification or reduction of the image. In Problem 86 "he develops the principle on which the so-called astronomical telescope is based, the discovery of which is thus tied up with his name

continued...

for all time" (*ibid.*) Kepler's telescope consisted of two convex lenses, as opposed to Galileo's which had one concave and one convex lens.

Written as a direct result of Galileo's *Siderius Nuncius* (1610), the book contains a long preface by Kepler in which he publishes the latest discoveries made by Galileo with the telescope, including the observation that Saturn does not appear as a simple disc (famously encoded by Galileo as an anagram), and that Venus has phases.

"Even this scanty account of the main content shows the epoch-making significance of the work. It is not an overstatement to call Kepler the father of modern optics because of it" (*ibid.*)

DiLaura, *Bibliotheca Opticoria,* 56. Caspar, *Bibliographia Kepleriana,* 40. Cinti, *Biblioteca Galileiana,* 31. See also King, *The History of the Telescope,* pp. 44–45.

First Printed Medical Illustrations

83. [**KETHAM, Johannes de.**] Fasciculus Medicine in quo continentur… [Colophon:] Impressum Venetiis [Venice]: per Joannem & Gregorium de Gregoriis fratres, 15th October 1495.

Small folio (312 x 213 mm.), 40 unnumbered leaves. With 10 full-page woodcuts, woodcut initials (including 8 coloured in red), text in double columns, 53 lines. Eight of the cuts are partially coloured in red and in one case also in brown by a contemporary hand; in the six woodcuts showing a naked figure the sexual organs have been coloured in grey ink (possibly at the time of binding). Some contemporary manuscript marginal notes in a very small hand. Pale brown stain in fore-edge margin of g1 and g4, ruled borders of 8 of the woodcuts shaved along the upper edge (as in other copies), but a fine and large copy with no markings and no repairs or restoration. Bound in brown half morocco with marbled sides and endpapers in the 19th century, probably for the Royal Academy.
Provenance: The Royal Academy of Arts, with their initials at foot of spine; sold at Sotheby's on 14th June 1966; private collection.

£90,000

Second Latin edition (the sixth edition chronologically including three Spanish editions), and a fine and large copy of the first printed medical book to be illustrated with realistic figures, in particular, anatomical illustrations. This is the first edition that is obtainable for practical purposes: in the last hundred years no copy of a Spanish edition is recorded in the most comprehensive online database as being sold, only one copy (lacking one leaf) of the 1491 edition, and four of the 1493 edition, of which one was imperfect and two were from the collection of Dr. Otto Schäfer.

The *Fasciculus Medicinae* is a collection of medical texts, some medieval but none of them classical or Arabic, first printed in 1491. In the Italian translation of 1493 "it underwent changes sufficiently significant to make it into what Dr. Singer has called the first modern medical book imbued with humanist spirit — perhaps a rather ambitious statement" (*PMM*). The woodcuts were dramatically improved, and it contained additional illustrations and, most notably, the anatomical text of Mundinus. The present edition contains six treatises, on urology, flebotomy, surgery, gynæcology, and epidemiology (the *Consilium pro peste evitanda* of PETRUS DE TUSSIGNANO). The sixth book is on anatomy, the *Anathomia* of MUNDINUS, which was the first monograph on anatomy to appear in print and the only book on the subject during the fifteenth century.

Of the ten woodcuts in this edition, the first eight appeared in the 1493 edition, one (depicting the sick room of a man with the plague) is a close copy from that edition, and one (the dissection scene) is new. Two of the cuts are urological, one astrological, one medical, one is the often repeated 'wound man', one a bloodletting scene, and one shows the female internal organs. The cut on the first page of the book shows the Paduan physician Petrus de Montagnana teaching; the library surrounding him is composed entirely of classical and Arabic works. The new cut shows Mundinus lecturing while a male cadaver is dissected, and accompanies Mundinus's work on anatomy because he re-introduced dissection, which had been neglected for 1500 years before him.

These illustrations are of quite extraordinary quality, especially bearing in mind that they had no precedent in a medical book. They were designed by an artist of the first rank, attributed to the school of Gentile Bellini (1429–1507), the presiding genii of late Gothic and early Renaissance Venice. They elevate the book into the ranks of finely illustrated incunabula, and give it an interest far beyond the world of medicine.

continued...

The so-called 'author' was Johannes von Kirchheim, to whom the work was in all probability attributed by its Italian printers, who in doing so corrupted his name to Ketham. Kirchheim, born in Swabia, was professor of medicine in Vienna in about 1460. There were 14 printed editions up to 1523, "but the influence of the book, particularly through its illustrations, long outlived them" (*PMM*).

Klebs 573.2. Hain *9775. BMC V, 351. Choulant, *Handbuch*, pp. 402–405 (unaware of the Spanish editions). Choulant pp. 115–122. Herrlinger pp. 28–29 & 65–66. Norman catalogue 1211. Dyson Perrins, *Italian Book-illustration and Early Printing,* 96. See G&M 363 and 363.1, *Printing and the Mind of Man* 36, Grolier One Hundred (Medicine) 10A, and Stillwell, *The Awakening Interest in Science,* III 436 and IV 667 (1491 edition).

84. LA CHAMBRE, [Martin Cureau de]. La Lumiere. A Paris: Chez P. Rocolet,...1657.

4to, 1 leaf (engraved title-page), 10 leaves, pp. 64, 67–368, 379–414, 5 leaves. Full-page engraved dedication to Cardinal Mazarin, 2 large engraved illustrations and several smaller woodcuts in the text, woodcut head- and tailpieces and initials. Single tiny wormhole in margin of first 7 leaves, single wormhole in upper margin becoming a wormtrack in a dozen leaves, a few leaves with dampstain at top (mostly very faint). Contemporary speckled calf, spine finely gilt (but gilt rubbed away at ends, upper joint just cracking, score-marks on upper cover). Contemporary inscription of Joseph de Banneville on title, old inscription concerning Richelieu on front pastedown; bookplate of David L. DiLaura.

£3800

FIRST EDITION. La Chambre's principal book on the nature and origins of light and colour, a subject to which he returned many times in other books. " *La Lumière* has its roots in La Chambre's previous publication…of 1634. Most of La Chambre's ideas—and unique vocabulary—regarding the nature of light and its interaction with objects are here considerably expanded to present an eclectic, scholastic treatment of light and color… Like much of La Chambre's work, *La Lumière* is a fashionable, gracious, and elaborately written 'discourse' intended, perhaps, to startle and attract with novel theories, but lacking any substantiation let alone experimental support" (DiLaura).

La Chambre was counsellor and physician to Louis XIV of France, a member of the Académie Française, and one of the founders of the Académie des Sciences. A close associate of Cardinals Richelieu and Mazarin, La Chambre was the author of many books on physics and medicine.

DiLaura, *Bibliotheca Opticoria*, 107. Albert, Norton & Hurtes 1285. Becker catalogue 223.

85. [LAMANDÉ, Mandé Corneille.] Pont en pierre à construire sur la Seine, à Rouen. Deuxième devis des ouvrages; précédé d'un mémoire sur les projets proposés, sur les moyens de construction, et sur la situation des travaux au 1er janvier 1813. A Paris: Chez Goeury, Librarie des Ingénieurs… 1815.

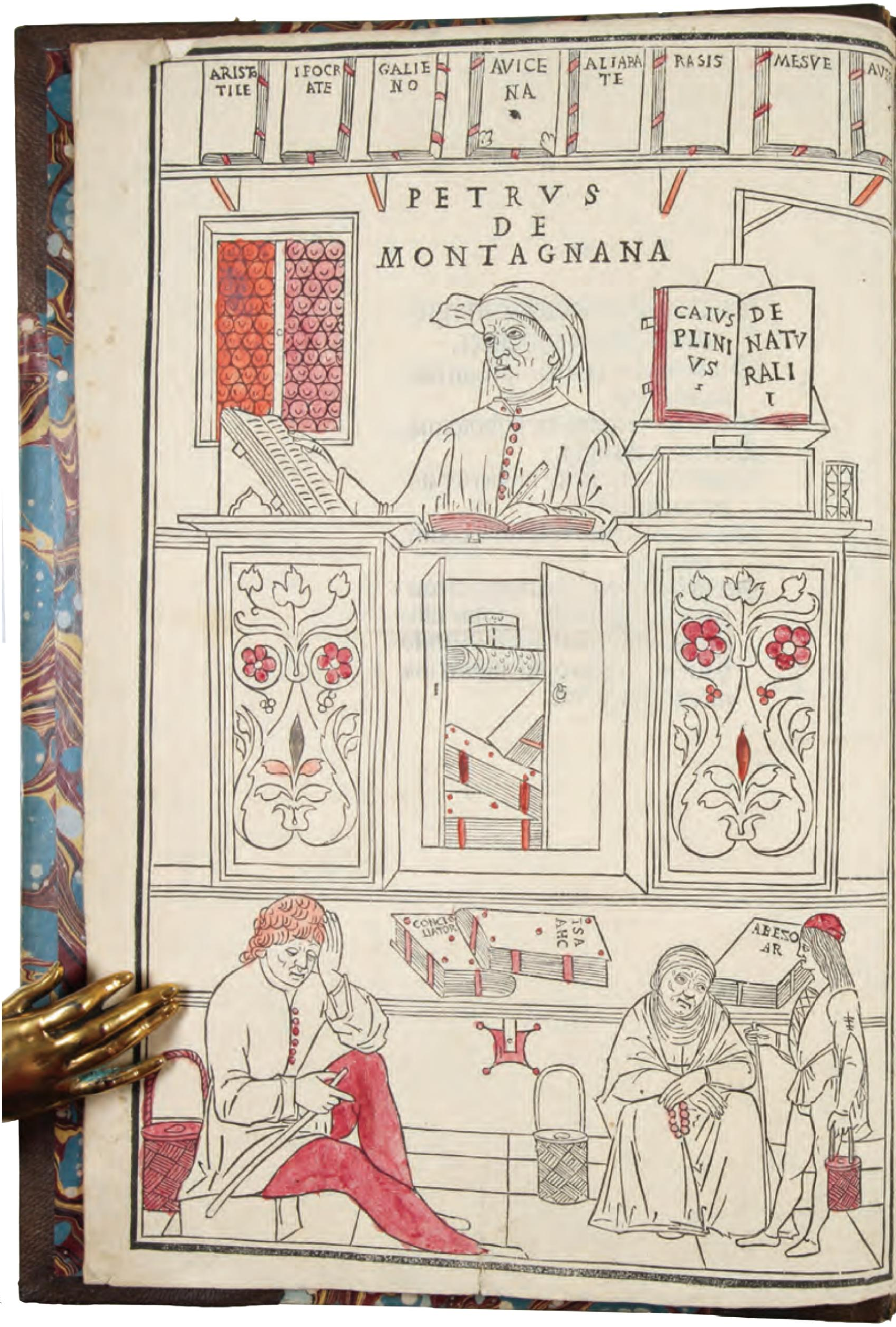
4to, 2 leaves (half-title and title), 135 pages, and 1 long folding plate of the bridge. Original blue marbled wrappers (spine a little worn), uncut. Folding plate a little spotted, otherwise a very clean copy. Small bookplate of "L'Ingénieur Maillebiau".

£480

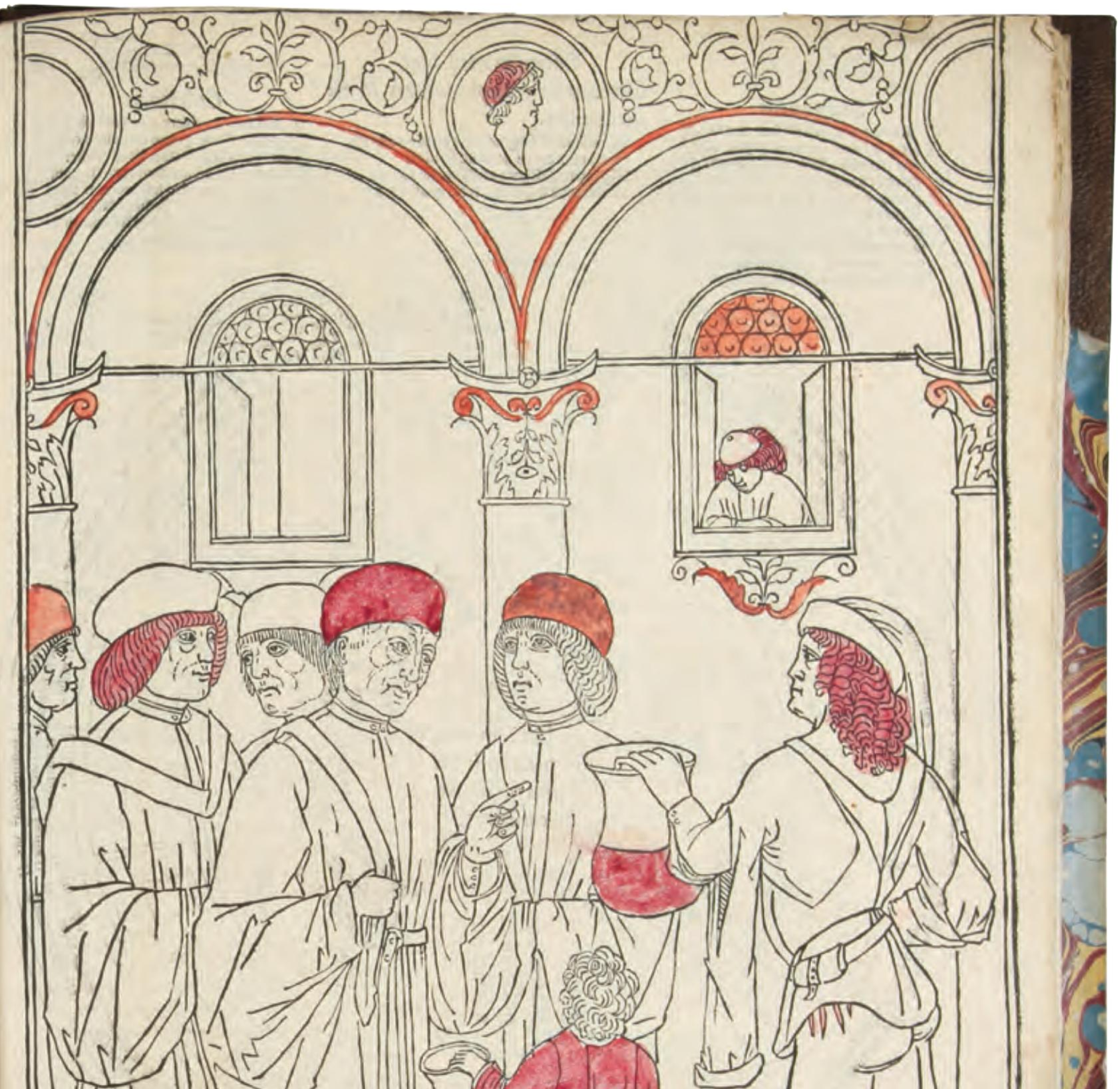
FIRST EDITION. The new bridge over the Seine at Rouen was decided upon in 1810 and work began the following year following the plans of Lemasson. In 1812 it was placed under the direction of Lamandé, who proposed several changes. It consists of two equal parts, which may be considered as two distinct bridges not in line with each other, their axes comprising an angle of 146º in order to bring the two bridges perpendicular to the two arms of the river. Each bridge consists of three segmental arches, the middle ones having a span of 101 feet 8 inches and the lateral arches a span of 85 feet 3 inches.

Lamandé gives a history of the bridges at Rouen, beginning with Queen Matilda's bridge of c. 1160. That was replaced by one of boats which lasted for nearly two centuries, and was in turn replaced by this new bridge. It was destroyed in 1940.

See Cresy, E., *An encyclopædia of civil engineering* (1847), 1, p. 276.


ARISTO TILE
IPOCR ATE
GALIE NO
AVICE NA
ALIABA TE
RASIS
MESVE
PETRVS DE MONTAGNANA
CAIVS PLINI VS
DE NATV RALI
CONCI LIATOR
ISA AHC
ABEZO AR

83 Ketham



Actually the Second Edition

86. LAPLACE, [Pierre Simon], ***Marquis de.*** Théorie Analytique des Probabilités. Paris: Mme. Ve. Coucier… 1812. [*Bound with:*] Supplément a la théorie analytiques des probabilités. Sur l'application du calcul des probabilités a la philosophie naturelle. [1816.] [*And:*] Deuxième supplément… Application du calcul des probabilités aux opérations géodésiques. [1818.]

4to, 5 leaves, pp. cvi, 506, (2) errata, 34 (first supplement), 50 (second supplement). The first leaf of each supplement is a sub-title. Pale dampstain in lower corner throughout but barely noticeable except for the last few leaves, some mild foxing and small marks. Nineteenth century half calf, flat spine gilt with green morocco label, marbled sides (but some of the surface of both boards eroded by insects, edges and tips of corners worn), marbled endpapers, blue edges. Signature of A. Jürs(?) in upper corner of title.

£2800

Second edition of 1814, and an interesting copy. Firstly this copy has the half-title, title, dedication and errata of the first edition, but the rest of the copy is of the second edition, something I cannot recall ever having seen before in any book. In addition to the four leaves just mentioned, the fifth preliminary leaf is the "Avertissement sur cette seconde édition".

Secondly this edition has numerous cancelled leaves, but in this copy three cancellands have been left in even though the cancels are also present. The first is pp. 303/304, and the second is pp. 445–448, which show that the book originally ended on page 445, followed by the contents leaves, but Laplace added another 39 pages as the text actually ends on page 484, followed by the contents leaves. The final leaf is the errata, the last erratum being for p. 441.

Laplace's book is of the greatest importance in the science of probability. The first part is on the mathematical theory of probability, and the second on its application to games of chance, the causes of events, demography, life expectancy, etc. In this second edition are two major additions, the *Essai philosophique sur les probabilités* which forms the 106-page introduction, and the probability of testimony (pp. 446 *et seq*., see above), a subject which Laplace continued in the second part of the first supplement, where he is concerned that a juror will not be mistaken in arriving at a verdict of guilt.

In the second supplement Laplace turned to geodesy, a discussion that Stigler [*The History of Statistics*] considers as containing "the earliest instance of a comparison of two well-elaborated methods of estimation for a general population" (DSB, 15, p. 376; see pp. 367–376 for a full discussion).

While the first and third editions are regularly offered for sale, the second seems to be exceptionally rare, with no copy traced for sale anywhere except for two copies offered by Quaritch in 1988 and 1993, also with two supplements.

See Heyde & Seneta, *I.J. Bienaymé, statistical theory anticipated*, pp. 30–31 and Parkinson, *Breakthroughs*, 1812. Westergaard, *Contributions to the history of statistics,* pp. 82–83 and 109–111.

87. LE DRAN, Henri-François. Parallele des Differentes Manieres de Tirer la Pierre hors de la Vessie. A Paris: Chez Charles Osmont... 1730. [*Bound with:*] Suite du Parallele des différentes manieres de faire l'extraction de la pierre qui est dans la vessie urinaire. Publié en 1730. Seconde partie. A Paris: Chez la Veuve Delaguette,... 1756.

2 works in 1 volume, 8vo, 1 leaf, pp. vii, (iii), 195, (5), and 6 folding engraved plates; pp. (iv), 97, (2), 2 folding engraved plates with 2 leaves of explanation. Tear across two plates neatly repaired without loss, strip torn from the surface of p. 91 of the *Suite* removing about 20 letters (supplied in pencil), otherwise excellent copies. Contemporary French mottled calf, spine gilt, red edges, small repairs to ends of spine and corners.

£700

FIRST EDITION, including the rare *Suite*. G&M 4283. An important book in the history of lithotomy, as Le Dran evaluates the different methods of lithotomy just coming into use, with an account of his own experiences. In particular he discusses the methods of Rau and Cheselden, and in the *Suite* those of Foubert, Thomas, Le Cat, and Frère Côme. Le Dran made many improvements

continued...

to lithotomy, and is credited by Murphy as the originator of the lateral operation usually attributed to Cheselden.

Murphy, *History of urology,* pp. 115, etc. Despite the presence of the sixth plate of the forceps dated 1749, this is the first edition, and not the reprint of c. 1772 but still dated 1730 recorded by Wellcome. The *Suite*, published 26 years after the original work, is rare, and not normally found with it.

A Monumental Documentary

88. MADHOUSES. Report from the Committee on Madhouses in England. Ordered, by the House of Commons, to be printed, 11 July 1815.

Folio, pp. 7, (3), 129, (3), 131–152, (2), 153–182, (2), 183–214, and 8 engraved plates (6 double-page) of designs for the West Riding, Bethlem, and other asylums. Early manuscript pagination in upper corner of rectos and plates. Foxing on the plates, otherwise a clean copy. Original blue boards (corners a little worn), new paper spine with printed paper label, new endpapers.

£900

FIRST EDITION of the four Reports for 1815, one of the most important documents in the history of psychiatry. The actual report of the committee comprises the first 7 pages, the four Reports themselves containing the Minutes of Evidence, taken from some of the leading figures in psychiatry of the time. There were four Reports in 1815, published between 25 May and 26 June, and a further three in 1816. "Together they were a survey of the conditions and treatment of the insane wherever they were confined… A revelation to all but a few when they appeared, they are today a historical source of the first importance containing information nowhere else to be found about how the insane actually fared as opposed to what was written about insanity in books, a disparity between theory and practice which emerges glaringly. Next to them the two earlier Parliamentary enquiries…appear almost insignificant. In contrast the 1815/16 Committee's Minutes of evidence is a monumental documentary…with plans of asylums, covering all aspects of asylum life…" (Hunter & Macalpine, pp. 696–703).

COPAC has one entry but gives full pagination, recording 2 copies.

"The First Commercially Marketed Electronic Digital Computer in England"

89. MANCHESTER UNIVERSITY. Manchester University Computer. Inaugural conference. July 1951. [Bolton: Tillotsons Ltd., 1951.]

Large 4to, 40 pages. Illustrations in the text. Original maroon wrappers, titled in gilt, maroon cord in spine. Bookplate of the Lyon Playfair Library, Imperial College, and faint stamp on title of the Institute of Computer Science Library.

£4500

"The second of the early British computer conferences, following the Cambridge University conference held in June 1949. 'The Manchester University Conference was held to inaugurate the Ferranti Mark I computer… The Ferranti Mark I was the first commercially manufactured computer in Britain (and arguably in the world). To commemorate the event Ferranti underwrote the cost of the slim but elegant conference proceedings… The Mark I itself was described by F. C. Williams, and the corresponding paper in the proceedings, which is superbly illustrated, is the best single account of the Ferranti Mark I computer" (Williams and Campbell-Kelly, *The Early British Computer Conferences* [1989], xiii).

"In comparison to the modestly produced proceedings of the 1949 Cambridge computer conference,…the Manchester pamphlet was elegantly typeset and printed in the manner of a sales brochure, and may have been intended for that purpose, since it was describing features of the first commercially marketed electronic digital computer in England" (from a long note in Hook & Norman, *Origins of cyberspace,* 774).

These proceedings include a lecture by A.M. Turing, and two by E.A. Newman, and on pp. 35–37 the computer scientist John Makepiece Bennett and the biochemist John Kendrew describe their use of the Cambridge EDSAC for the computation of Fourier syntheses in the calculation of structure factors of the protein molecule myoglobin, the first published account. "This was the first

continued...

application of an electronic computer to computational biology or structural biology. Using this computational technique Kendrew solved the three-dimensional structure of myoglobin, the first protein to be so analyzed. In 1951 Cambridge University was one of only three or four places in the world with a high-speed stored-program electronic computer, and Kendrew took full advantage of the speed of Cambridge's EDSAC computer and its more powerful successors to execute the complex mathematical calculations required to solve the structure of myoglobin. Kendrew was the first to apply an electronic computer to the solution of a complex problem in biology. In 1962 Kendrew received a share of the Nobel Prize in chemistry for his use of x-ray crystallography to determine the atomic structure of proteins" (Jeremy Norman [of course—who else?], Catalogue 50).

"The Best Optical Book of the Renaissance"

90. MAUROLICO, Francesco. Photismi de Lumine, & Umbra ad Perspectivam, & radiorum incidentiam facientes. Diaphanorum partes, seu libri tres: in quorum primo de perspicuis corporibus in secundo de iride: in tertio de organi visualis structura, & conspiciliorum formis agitur. Problemata ad perspectivam, & iridem pertinentia. Omnia nunc primum in lucem edita. Neapoli [Naples]: Ex Typographia Tarquinii Longi, 1611.

4to, pp. (vii), 84. Numerous woodcut diagrams and one woodcut illustration of the anatomy of the eye in the text. C1 and C4 are cancels, and in this copy these two leaves are bound in after the complete gathering C which retains the two cancellands. Neat repairs to inner margin of title and upper inner corner of first 4 leaves, neat repair to tear in fore-edge margin of D4. Modern vellum, brown morocco label on spine. Inscription of the Jesuit college of St. Ignatius on title; bookplate of David L. DiLaura

£32,000

FIRST EDITION of the most important work on optics of the sixteenth century. Edited by Cristoforo Clavio, the work's publication some 35 years after Maurolico's death was occasioned in part by Galileo's discoveries concerning the telescope in 1610. It is extremely rare.

"The greatest part of his *Photismi* was already written by 1554, and the whole work was completed at the end of 1567, that is, before the publication of Alhazen's *Opticae thesaurus.* It does not follow that Maurolyco was not acquainted with Alhazen's book, because he might have read a manuscript of it, or the Alhazen tradition might have reached him indirectly. However, his own *Photismi* was very different: it was composed in the Greek mathematical style with which he was familiar. Its full title describes its contents: 'Light concerning Light, consisting of a Chapter on Shadows & Reflection followed by Three Books on Refraction of which the first deals with transparent bodies, the second with the rainbow, the third with the structure of the human eye and the forms of spectacles'.

"Maurolycus' *Photismi* may have been the best optical book of the Renaissance, but as it remained unpublished it could not exert any influence before 1611" (Sarton, p. 85).

"Maurolico [1494–1575] did important work in optics; indeed, according to Libri, 'it is in his research on optics, above all, that Maurolico showed the most sagacity' (*Histoire*, III, 116). The chief record of this research is *Photismi de Lumine et Umbra*, in which Maurolico discussed the rainbow, the theory of vision, the effects of lenses, the principal phenomena of dioptrics and catoptrics, radiant heat, photometry, and caustics. Maurolico's work on caustics was anticipated by that of Leonardo da Vinci (as was his research on centers of gravity), but Leonardo's work was not published until long after Maurolico's. Libri further characterized the *Photismi de lumine et umbra* as 'full of curious facts and ingenious research', and Sarton suggested that it might be the most remarkable optical treatise of the sixteenth century outside the tradition of Alhazen, or even the best optical book of the Renaissance (*Six Wings*, 84, 85)."

The two cancelled leaves, present here in two quite different states of text and illustration, were unknown until seen in this copy. During the printing Clavio changed his mind about the clarity of the text and diagrams accompanying Maurolyco's explanation of the pinhole camera, which is the earliest such explanation.

DiLaura, *Bibliotheca Opticoria*, 57. Sarton, *Six Wings: Men of Science in the Renaissance,* pp. 84–85. Vasco Ronchi, *Optics, the science of vision,* pp. 39–40. Lindberg, *Theories of Vision from*

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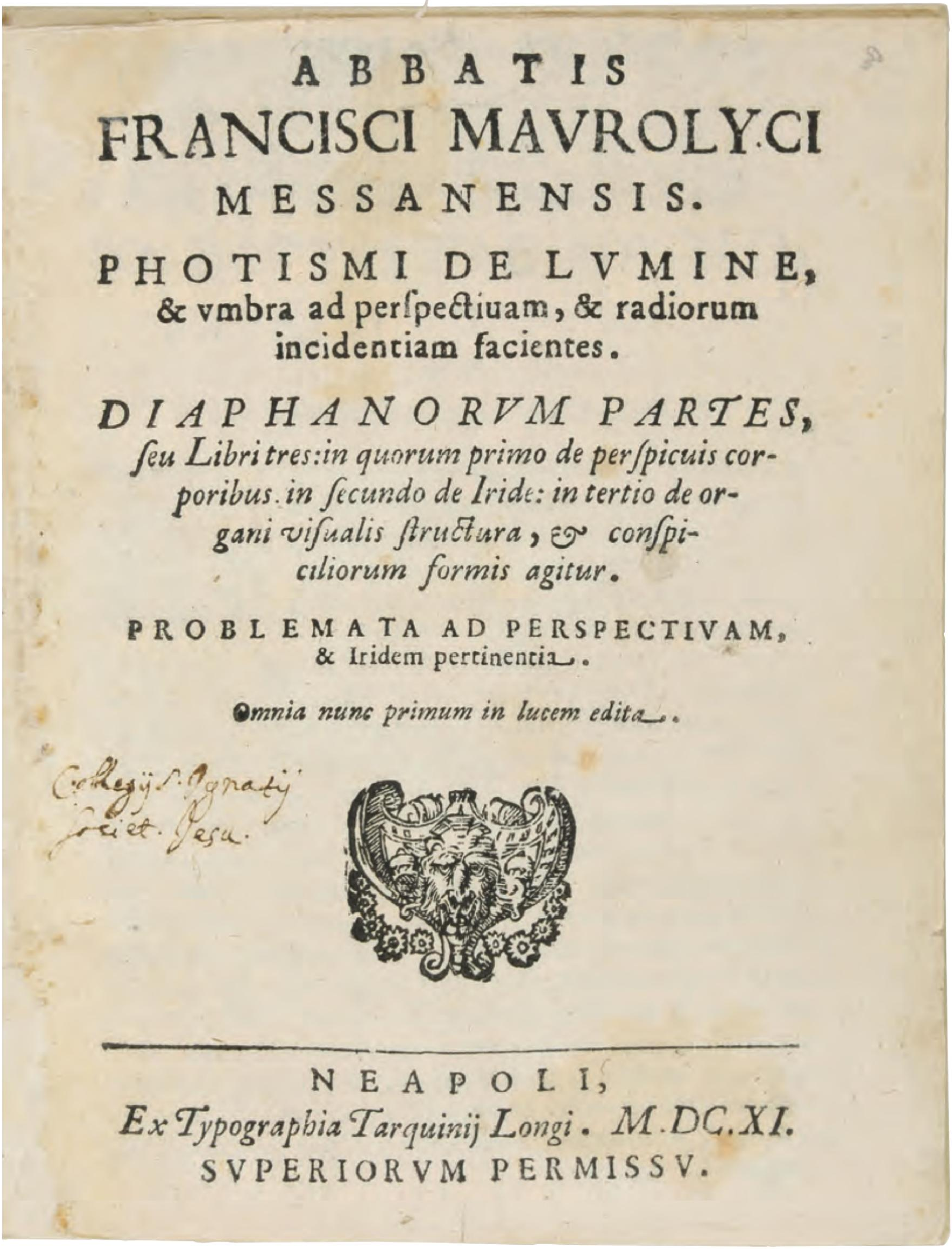

ABBATIS FRANCISCI MAVROLYCI MESSANENSIS.

PHOTISMI DE LVMINE,

& vmbra ad perſpectiuam, & radiorum incidentiam facientes.

DIAPHANORVM PARTES,

ſeu Libri tres: in quorum primo de perſpicuis corporibus. in ſecundo de Iride: in tertio de organi viſualis ſtructura, & conſpiciliorum formis agitur.

PROBLEMATA AD PERSPECTIVAM,

& Iridem pertinentia.

Omnia nunc primum in lucem edita.

Collegij S. Ignatij
Societ. Iesu.

NEAPOLI,
Ex Typographia Tarquinij Longi. M.DC.XI.
SVPERIORVM PERMISSV.

90 Maurolyco

Al-Kindi to Kepler, pp. 178–182. Henry Crew (trans.), *The Photismi de Lumine of Maurolycus. A Chapter in Late Medieval Optics.* Wolf, *History of Science, Technology, &c. in the XVIth and XVIIth Centuries,* pp. 245–248, showed that Maurolico's work on optics anticipated that of Kepler in some respects. Riccardi, I, 142 (the 1575 edition that he cites is a ghost.)

Lemons a Cure for Scurvy

91. MAYNWARINGE, Everard. Morbus Polyrhizos & Polymorphaeus. A Treatise of the Scurvy, examining the opinions of the most solid writers and grave writers, concerning the nature and cure of this disease. The third impression with additions. Traversing some fundamental hypotheses of Dr. Willis upon the scurvy. With a considerable inquiry, and true account of tobacco… London: Printed: and are to be sold by the booksellers. 1669.

8vo, pp. (xxiv), 230, (2) adverts, engraved frontispiece portrait (folded in on two sides, being larger than the book). Title within double ruled border. Contemporary blind-ruled sheep, unlettered, missing rear endpapers. A few tiny holes in binding, a few stains on upper cover, but a lovely copy in original state.

£2250

Fifth edition, but effectively the third edition as there were three issues of the second edition with 134 pages after the first edition of 1665 with 94 pages.

"Throughout his career Maynwaring took an interest in the cure of scurvy, which he regarded as a disease endemic in northern countries. He made and sold his own remedies against scurvy and recommended oranges and lemons as antidotes against this disease. He condemned tobacco smoking as one of the causes of scurvy" (*ODNB*). Recent research has confirmed that the body's supply of vitamin C is depleted by smoking.

Maynwaringe was born in 1627/8 at Gravesend and graduated MB at Cambridge aged seventeen. He travelled to America and Dublin, where he was created MD, before settling in London. He was an advocate of chemical medicine, defending chemistry by arguing that it was part of ancient learning.

Wing M1503B. ESTC lists no copy in the UK, and has a differing collation with only one page of adverts at the end.

92. MEAGER, Leonard. The Mystery of Husbandry: or, arable, pasture, and wood-land improved. Containing the whole art and mystery of agriculture or husbandry, in bettering and improving all degrees of land, fertilizing…to bear good corn, or become meadow or pasture. Directions for marling, dunging, mudding, sanding, flowing, trenching, and other methods of improving land to the best advantage. Proper times for sowing, chusing good seed, and ploughing; with the description of useful ploughs suitable to the different sorts of ground, &c. How to keep corn, and other pulse, from being destroyed by birds, vermin, lightning, mildew, blasts, smuttiness, cold winds, &c. Harvestwork, inning or stacking, &c. The best granaries for preserving corn and pulse, &c. How to know smutty or washed corn from others. Proper tools for husbandry and day-labour computed…To which is added, The countryman's almanack. London: Printed by W. Onley, for Henry Nelme… 1697.

12mo, pp. (xii), 161, (7) advertisements, folding engraved frontispiece of various types of plough. Title within double-ruled border. Contemporary mottled sheep, rebacked and endpapers replaced at an early date. Paper a little browned (as in the other copy that I have handled) and spotting on the rear endpapers. Bold signature of Thomas Cotton, 1709, on front fly-leaf.

£1500

FIRST EDITION, first issue. Meager's third book (his first two were on gardening and fruit crops) is principally on methods of improving the soil. It "was considered at the time a work of first-class merit" (McDonald). He supplied what had been omitted by others, much of which had been borrowed from earlier writers. "This was sound logic, and Meager seems to have carried these advanced ideas right through his book in a manner which commands respect for the man and

continued...

his methods" (*ibid*). He discusses different types of land and methods of fertilising it, and deals extensively with ploughing and types of plough. He was an advocate for planting all waste land with trees for posterity — merit indeed!

This was the only edition. Wing M1573A (M1573 is a reissue with a different imprint for a bookseller in Cornwall). McDonald, *Agricultural Writers,* includes Meager's book among the early "examples of excellence" (and not just in the bibliographical list), pp. 148–151. Fussell, *The Old English Farming Books*, pp. 77–79, describes it as "a useful general work which Donaldson once again estimates highly." Donaldson (*Agricultural Biography,* 1854), said of it that "Meager's book must be reckoned a very considerable advance in the progress of agriculture."

Mirrors

93. **MIRAMI, Rafael.** Compendiosa introduttione alla prima parte della Specularia, cioè della scienza de gli specchi. Opera nova, nella quale brevemente, e con facil modo si discorreintorno agli specchi e si rende la cagione, di tutte i loro miraculosi effetti… [*And:*] Tavole della prima parte della specularia… In Ferrara: Appresso gli heredi di Francesco Rossi, & Paolo Tortorino… 1582.

2 parts in 1 volume, 4to, pp. (viii), 70, (2) blank, (4); 23, (1) blank. Separate title-page to the *Tavole*, woodcut device on both title-pages and last page, woodcut initials. Twentieth century half vellum. Small repair to lower corner of first three leaves, but a clean copy. Bookplate of David L. DiLaura.

£8500

SOLE EDITION of the only known publication by Mirami, who identifies himself as a Jewish physician and mathematician from Ferrara. However, the lack of documentation about his life suggests that the name may be a pseudonym.

"Rafael Mirami's *Compendiosa* is a late Renaissance consideration of the utility and properties of mirrors. It is the product of the transition from the catoptrical optics of antiquity and its attempt to produce images from distant objects, to the development of dioptrical optics in the early 17th century that led to the telescope… Mirami includes elaborate *Tavole* that give a schema of types of mirrors, their properties, their uses, and the types and place of images they produce" (DiLaura).

The work is unusual and interesting for combining a scientific interest in mirrors and optics with poetry; verses from Dante, Petrarch, and Horace, intended to support his arguments, are interspersed in the text, which even ends with his own sonnet.

DiLaura, *Bibliotheca Opticoria*, 37.

94. **MONRO, Alexander** *(secundus)***.** A Description of all the Bursae Mucosae of the Human Body; their structure explained, and compared with that of the capsular ligaments of the joints, and of those sacs which line the cavities of the thorax and abdomen; with remarks on the accidents and diseases which affect those several sacs, and on the operations necessary for their cure. Illustrated with tables. Edinburgh: Printed for C. Elliott, T. Kay...and for Charles Elliott, 1788.

Folio, 60 pages and 10 finely engraved plates by George Cameron, Thomas Donaldson and J. Beugo from drawings by Donaldson and Andrew Fyfe (6 folded; plates 1–3 and 5 are printed on two sheets). Old library stamp at head of title and light dust-soiling in margins, some other minor dust-soiling, three tears in blank areas of plate 3 (one professionally repaired). Early 19th century half calf, sides rubbed, edges and tips of corners worn, red morocco title label on spine and matching library label at foot.

£1900

FIRST EDITION. G&M 399.2: "The first serious study of this subject and the most original anatomical work by the greatest of the Monro dynasty." This classic work contains the first full anatomical description of the sacs between the tendons and bones which Albinus had named the bursae mucosae. They are illustrated on ten plates "which for explicit clarity and accuracy have not been improved upon" (*Heirs of Hippocrates* 1011). The plates depict the foot, various joints including the knee and hip, and four of the plates are life-sized representations of the entire arm and leg.

Russell, *British anatomy,* 613. Taylor, *The Monro Collection*, M170.

95. MONRO, Alexander ***(secundus)*****.** Observations Anatomical and Physiological, wherein Dr. Hunter's claim to some discoveries is examined. Edinburgh: Printed by Hamilton, Balfour & Neill, August 1758.

8vo, 2 leaves, 80 pages, and 2 engraved plates. Upper margin cut close to a few page numbers, inoffensive library stamp on a text leaf and one plate. Modern boards.

£300

SOLE EDITION. "In 1752 John Hunter, working on behalf of William, injected the semeniferous tubules in a human testis connecting with the epididymus, a procedure which he acknowledged Henry Watson had shown him in a dissection. Alexander Monro *secundus*, who came to hear about Hunter's unpublished work, claimed priority for a similar preparation in a publication of 1755, though priority rested with Albrecht von Haller (1745). Monro's 1755 Edinburgh thesis also claimed the discovery that lymphatics were absorbents. Joseph Black, who saw the draft thesis, told Monro that he must remove the claim as Hunter had been teaching that view since 1746. Monro clung to priority. He further claimed the discovery of the ducts from the lachrymal gland to the human eye that Hunter had demonstrated in 1747" (*ODNB* article on William Hunter).

Taylor, *The Monro collection,* A27, "This interesting paper…".

96. MÜLLER, Johannes. Über ein eigenthümliches, dem Nervus Sympatheticus analoges Nervensystem der Eingeweide bei den Insecten. [No place, printer or date; Nuremberg(?), 1827.]

4to, 38 pages, and 3 engraved plates by W. Engels from drawings by the author. Foxing on the text leaves, and paper of plates lightly browned. Original thin blue boards (vertical crease, paper spine worn and with pieces missing), upper board titled in manuscript.

Provenance: inscribed by the author on front pastedown to Dr. [E.] H. Weber (1795–1878), professor of anatomy and physiology at Leipzig and the founder of experimental psychology; Walter Pagel (1896–1983), historian of science, with the manuscript library label of B.E.J. Pagel, Walter Pagel's son, in the hand of the father.

£300

OFFPRINT from *Nova Acta Physico-medica Academiae Caesareae Leopoldino-Carolinae Naturae Curiosorum,* 14 (1827), pp. 73–108 and plates VII–XIX; the text pages have been renumbered but the original numbering is also given. This is an early paper on neurology by Müller, a field to which he was to make major contributions, in particular his famous confirmation of the Bell-Magendie law in 1831.

97. MUZQUIZ, Miguel de. Tratado instructivo, y práctico sobre el Arte de la Tintura: reglas experimentadas y metódicas para tintar sedas, lanas, hilos de todas clases, y esparto en rama. Madrid: En la imprenta de Blas Roman. 1778.

Folio, pp. xxx, 250, and 13 engraved plates (1 folding). Contemporary limp vellum (some minor marks and wear to lower edges). A fine copy with good margins.

£1500

FIRST EDITION. The text analyzes in detail the treatment of silk, wool and yarn, the preparation of textiles and the steps of dyeing, with detailed instructions for natural methods and pigments. The copperplates show the main operations that are used in the Real Fábrica de Madrid, with the workers that participate and the necessary equipment to execute the process of coloration. The final, folding plate shows the layout and process of the author's business where he dyed material for the five largest guilds in Madrid.

Not listed by Ron, *Bibliotheca Tinctoria*.

Presentation Copy

98. MYDORGE, Claude. Prodromi Catoptricorum et Dioptricorum: sive conicorum operis ad abdita radii reflexi et refracti mysteria praevii & facem praeserentis. Libri primus et secundus. D.A.L.G. Parisiis: Ex typographia I. Dedin… 1631.

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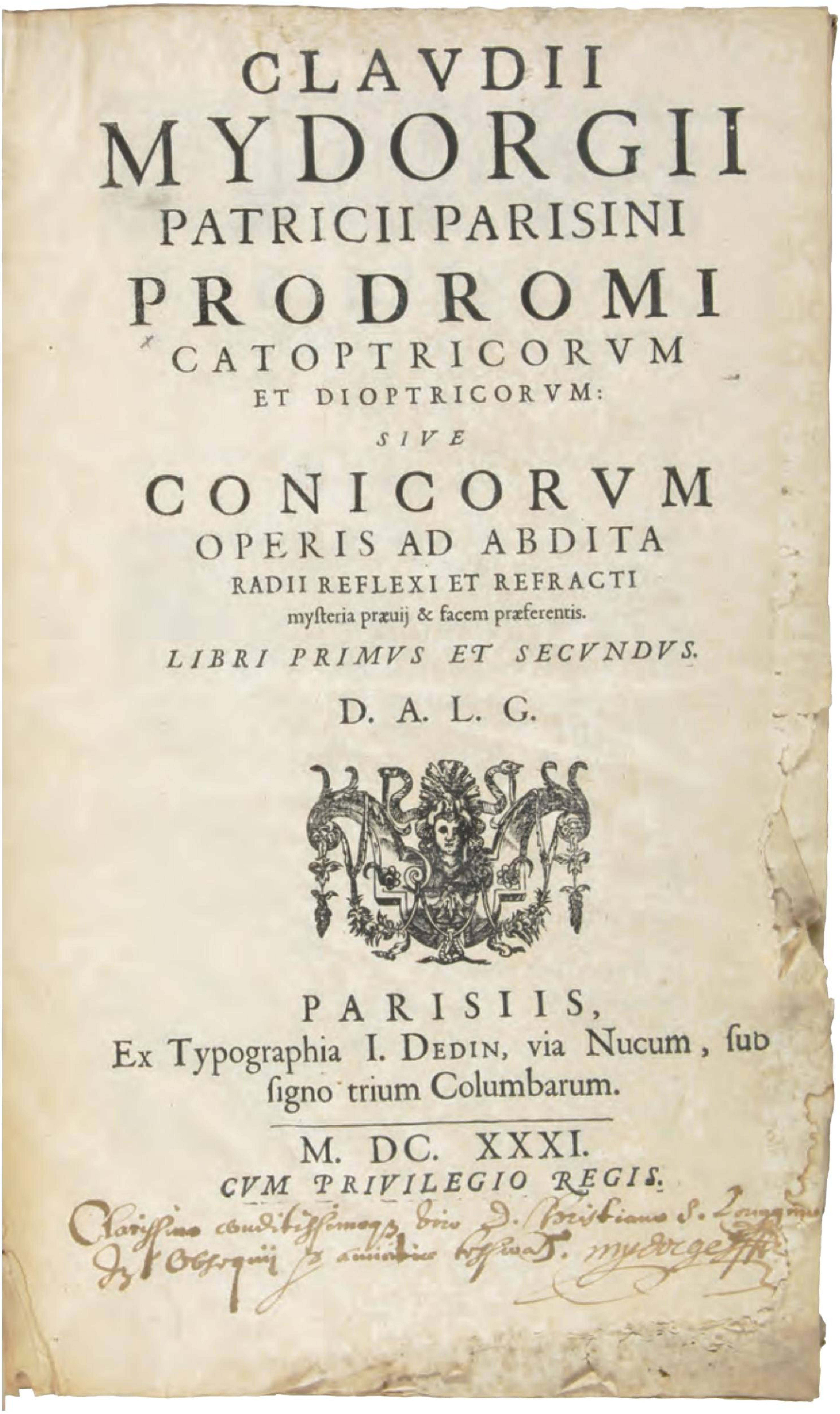


CLAVDII
MYDORGII
PATRICII PARISINI
PRODROMI
CATOPTRICORVM
ET DIOPTRICORVM:
SIVE
CONICORVM
OPERIS AD ABDITA
RADII REFLEXI ET REFRACTI
myſteria præuij & facem præferentis.
LIBRI PRIMVS ET SECVNDVS.
D. A. L. G.

PARISIIS,
Ex Typographia I. DEDIN, via Nucum, ſub
ſigno trium Columbarum.

M. DC. XXXI.
CVM PRIVILEGIO REGIS.

Clarissimo eruditissimoque viro D. Christiano S. Longomontano
d.d. obsequii et amicitiae tesseram. C. Mydorge

98 Mydorge

Small folio, 6 leaves (including the initial blank), 134 pages, 2 leaves (errata). Woodcut device on title, woodcut head- and tailpieces and initials, diagrams in the text. Comtemporary vellum. This copy has been water-damaged at an early stage; the front endpapers and the initial blank are ragged, and the fore-edge and lower margins of the title-page are partly missing, the vellum is a bit stained and the paper is wrinkled but otherwise in good condition and only very lightly discoloured or stained.

Presentation copy, inscribed by the author in the lower margin of the title-page to Christian S. Zeuggman, and signed by Mydorge with his full name rather than usual sign "D.A.L.G."

£29,500

FIRST EDITION of Mydorge's important and original work on conic sections, presented as a geometric basis of reflective and refractive optics.

"In his study of conic sections Mydorge continued the work of Apollonius, whose methods of proof he refined and simplified… Mydorge asserts that if from a given point in the plane of a conic section radii to the points of a curve are drawn and extended in a given relationship, then their extremities will be on a new conic section similar to the first. This statement constitutes the beginning of an extremely fruitful method of deforming figures; it was successfully used by La Hire and Newton, and later by Poncelet and, especially, by Chasles, who named it *déformation homographique*… Mydorge's works on conic sections contain hundreds of problems published for the first time, as well as a multitude of ingenious and original methods that later geometers frequently used, usually without citing their source.… Finally it should be noted that the term 'parameter' of a conic section was introduced by Mydroge" (*DSB*).

"By the time of the *Prodromi*, Mydorge had intimate knowledge of the optical properties of curves and surfaces and had developed descriptions based not on their figures as produced by sectioning a cone, but rather on their focal properties. He was equally interested in, and inventive of, ways in which to actually produce these curves. Both aspects would define the *Prodromi*" (DiLaura).

This first edition contains the first two Books, and is much rarer than the second edition of 1639 which contained all four Books. As in the Columbia, BNF and Horblit (now at Zürich) copies (and possibly in the only other copy recorded by OCLC, at NYPL), this copy has a manuscript correction relating to page 36 signed "D.A.L.G." and a small stamp with the author's arms in the lower margin of the first page of errata.

DiLaura, *Bibliotheca Opticoria,* 71.

The Boiled Mutton Gravy Experiment

99. **NEEDHAM, [John] Turbeville.** Observations upon the Generation, Composition, and Decomposition of Animal and Vegetable Substances. Communicated in a letter to Martin Folkes, Esq; President of the Royal Society… London: Printed in the year 1749.

4to, 1 leaf, 52 pages, 1 folding engraved plate. Modern calf-backed boards antique. Slit or paper flaw (7 cm.) in blank area of title very neatly repaired, lower ruled border of the plate slightly shaved. Initials J.W. in an early hand on the title-page.

£800

FIRST SEPARATE EDITION, an offprint from the *Philosophical Transactions*, of the second of Needham's works on spontaneous generation, and the one which includes the experiment which he himself considered crucial to the debate.

In 1748, at Buffon's invitation, Needham examined fluids extracted from the reproductive organs of animals and infusions of plant and animal tissue. Buffon never claimed to have observed the microscopic joining of the molecules that he speculated took place, but Needham thought he actually did see new organisms taking shape out of disorganised material. This was his famous experiment with boiled mutton gravy. Needham's case rested upon the fact that, if meat broth was placed in a sealed vessel and heated to a high temperature so that all life was destroyed in it, it would be found to be swarming some days later with microscopical animals, which it was. The debate continued, involving Spallanzani and Pasteur, and is still unresolved, as Joseph Needham wrote in 1934.

Needham, *A history of embryology* (1934), pp. 188–189. Bulloch, *The history of bacteriology,* pp. 72–74. *DSB* X, p. 10. Penso, *La conquête du monde invisible,* pp. 241–242.

100. NELIGAN, J. Moore. Atlas of Cutaneous Diseases. Dublin: Fannin and Co… 1855.

Small folio, (viii) pages, and 16 chromolithographed plates each with a facing page of text and tissue guard. Half-title. Dampstain in upper margin of plates and some foxing in the margins. Original mauve cloth faded to brown (upper cover stained, lower corners bumped), rebacked preserving the original leather letttering piece, yellow endpapers. Signature of a surgeon in Pembroke dated 1857 on front endpaper.

£300

FIRST EDITION. A disciple of Willan and Bateman, Neligan was one of the early British dermatologists, and with Erasmus Wilson, James Startin, and Thomas Hunt constituted "the entire dermatologic contingent of the U.K.", as Crissey & Parrish put it, in the middle of the 19th century. Neligan's atlas followed his text-book of 1852. It had a wide sale, especially in America where it was reprinted, but this original Irish edition is much scarcer. The sixteen plates incorporate about 90 figures.

Pusey, p. 69. Crissey & Parrish p. 281.

101. NEWTON, Isaac. Mathematical Principles of Natural Philosophy. Translated into English, and illustrated with a commentary, by Robert Thorp, M.A. Volume the First [all published]. London: Printed for W. Strahan; and T. Cadell, in the Strand. 1777.

4to, pp. lviii, (ii), 360, and 22 stilted and folding engraved plates. Half-title misbound after the title, dedication leaf misbound after the first leaf of subscribers. Nineteenth century half calf (nicely rebacked and recornered as the original), flat spine gilt in compartments, drab paper sides. Some minor foxing on the title and elsewhere, tear (8 cm.) in R2 carefully repaired affecting a few letters, but a fine copy.

£5200

FIRST EDITION of the second translation into English of the *Principia*, although only the first volume was published. Thorp's translation, "though based on Motte's edition of 1729, is considered by Cohen (*Newton*, 1969, p. iv) to be 'notably improved and amended'. Further, he declared, for anyone wishing to follow Newton's reasoning and 'to comprehend this great treatise on its own terms, there is no better work…available in English'." (Gjertsen, *The Newton Handbook*). This first edition is quite rare; it was reissued in 1802. Thorp was one of the three editors of the *Excerpta* published in 1765.

Wallis 28. Gray 28. Not in Babson.

The Official "Blue Book" Report

102. [NIGHTINGALE.] [HERBERT, Sidney.] Report of the Commissioners appointed to inquire into the Regulations affecting the Sanitary Condition of the Army, the Organization of Military Hospitals, and the Treatment of the Sick and Wounded; with evidence and appendix. Presented to both Houses of Parliament by Command of Her Majesty. London: George Edward Eyre and William Spottiswoode for H.M.S.O., 1858.

Folio, 2 leaves, pp. iii–lxxxv, 607, (1), 1 folding hospital plan, 7 folding charts, 10 coloured diagrams (5 folding), and 5 folding coloured plates of barrack and hospital designs. Edges of a few leaves and plates at the ends slightly chipped. Original blue printed wrappers (somewhat darkened, neatly restored). Loosely inserted are four pages of manuscript notes on House of Commons paper.

£1800

FIRST EDITION of the official "Blue Book" or report of the Commission set up by Lord Panmure, largely at Florence Nightingale's instigation. Her material contributions to the *Report* are in the *Evidence* and in *Appendix LXXII*, pp. 361–394 and 516–543 (although these pages include Appendixes LXXXIII–LXXV). "In a sense the whole *Report* may be regarded as one of Florence Nightingale's works, and she herself thought of it as such. It was actually written by Sidney Herbert in August 1857, but he had much assistance from Miss Nightingale… Throughout 1857 she was in constant touch with Herbert, Sutherland, McNeill, Farr and many others in connection with the work of the Commission, examining the evidence presented to the Commissioners, gathering statistical

continued...

data, working out the details of hospital construction; editing, correcting and advising. Finally, on its appearance, she arranged for the *Report* to be reviewed in the most influential monthly and quarterly journals, and nominated the reviewers in collaboration with Herbert" (Bishop & Goldie). The *Report* was the result of the official inquiry, and in a sense a parallel to Miss Nightingale's own *Notes on matters affecting the health, efficiency. and hospital administration of the British Army,* which appeared later in 1858. Bishop & Goldie 51.

The Real Purpose of her Lamp

103. NIGHTINGALE, Florence. Photograph of Florence Nightingale's lamp (S. Clarke's Patent Fusee Candle Cooking Lamp), by Russell's of Southgate, Chichester. [c. 1888–1911.]

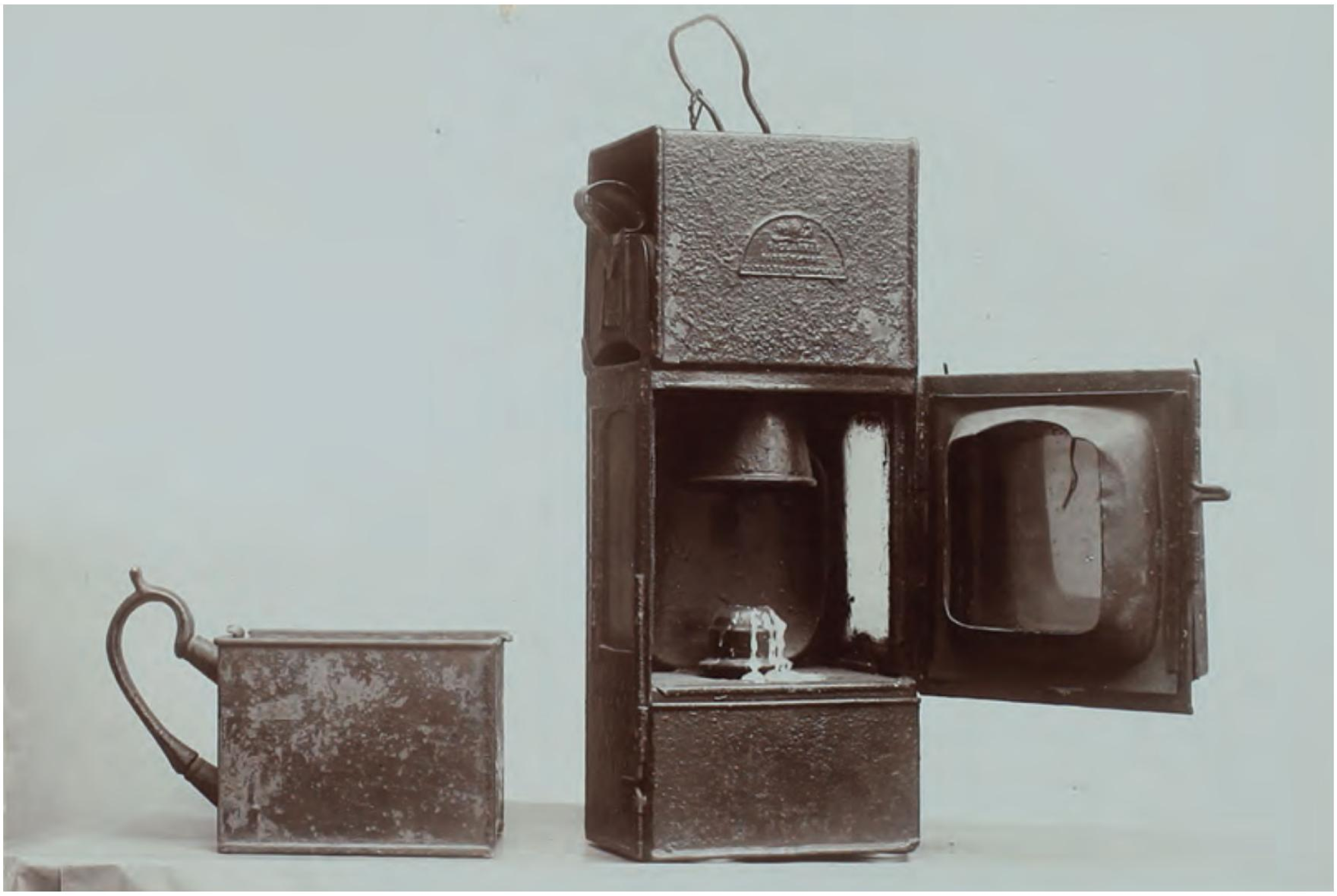
Sepia photograph mounted on card, image size 97 x 143 mm., with long manuscript note on verso. Scattered foxing on the mount, otherwise in good condition.

£650

The note on the verso of this photograph of Florence Nightingale's famous lamp explains that the purpose of the lamp was to provide not light, but heat. Nightingale "saw the difficulties of obtaining a little hot water in the hospital where she worked & by her efforts some small lamps heated by a candle were ordered. Two metal dishes, or trays to hold the liquid formed part of the equipment, either of which the user could slide into the side of the lamp above the candle & so keep the contents hot & ready for use."

This particular lamp was given by Nightingale to Hospital Sergeant Edward Baker of the 34th Border Regiment, during the Crimean War. Baker lived in Chichester, and after his death it passed to a lady living in nearby Bognor, who allowed it to be photographed.

The firm of Russell & Sons was one of the earliest professional photographers in Chichester, founded by James Russell in about 1858. His sons all joined the business with several studios mostly in and around Chichester. The studio in Southgate, Chichester, operated between 1888 and 1911.



103 Nightingale

continued...

This photograph and its provenance completely alter the legend of "The Lady with the Lamp", a nickname gained by Nightingale from a report in *The Times* during the Crimean War, saying that she moved among the wounded at Scutari in the darkness, holding a lamp for light, after all the medical officers had retired for the night. In fact these metal lamps were first produced in 1855 expressly for heating food as well as for giving off light. Made of tin, the heating compartment was at the top, the candle section in the middle, and a storage compartment at the bottom, and Nightingale introduced them into the hospital at Scutari to supply a small quantity of hot water when required. See the Newsletter of the Fairy Lamp Club, issue LXIII, May 2012.

104. NIGHTINGALE, Florence. Notes on Hospitals: being two papers read before the National Association for the Promotion of Social Science, at Liverpool, in October 1858. With evidence given to the Royal Commissioners of the state of the army in 1857. London: John W. Parker and Son, 1859.

8vo, pp. (vii), 108, + 8 pages of advertisements at the end, folding letterpress table and 4 folding plates of hospital plans. With the half-title and the final advertisements. Original brown cloth (neatly rebacked, one upper corner a little worn), brown endpapers. Contemporary inscription "From the Author" (not in Nightingale's hand) on half-title.

£2800

FIRST EDITION IN BOOK FORM. "Based on Nightingale's extensive knowledge of English and Continental hospitals, the work was the most exhaustive study to date of hospital planning and administration. She blamed the majority of hospital deaths on overcrowding, lack of light and ventilation, and the collection of large numbers of the sick under one roof" (Norman).

"The little book, revolutionary in character, set the seal on Miss Nightingale's authority on the subject of hospitals, and gave a new direction to their construction" (Bishop & Goldie). It was made up of two papers read before the National Association for the Promotion of Social Science and three articles reprinted from *The Builder.*

This copy has neat contemporary annotations and markings in the margins, evidently by an important physician with experience of the subject, which add to and sometimes correct the text, e.g. "In 1817 & 18 the Irish fever patients did better by the road-side than in hospital. Stromeyer takes the windows out of fever as I did out of cholera hospitals."

G&M 1611. Bishop & Goldie, *Bio-bibliography,* 100 (iii). Norman catalogue 1599.

105. NIGHTINGALE, Florence. Notes on Nursing: what it is, and what it is not. New edition, revised and enlarged. London: Harrison,… 1860.

8vo, pp. xv, 221, (3). Half-title. Original black limp cloth, top of spine worn and a few small chips in joints, front free endpaper missing, otherwise a nice copy.

£550

Second and definitive edition of the most famous book in the history of nursing. For this edition, Nightingale enlarged her original slim volume of 79 pages to the size of a substantial book. This and later editions, which continued to be issued up to the turn of the century, are far rarer than the first edition in its various issues.

"Only the second version of *Notes on Nursing*, published as the Library Standard edition in July 1860, was intended for use as a reference work by professionals. This contains by far the fullest and most scientifically oriented text, and it begins with the comprehensive 'Digest' of its contents, listing with a great degree of accuracy the headings that fill the margins of the book. In its day it was expensive to produce and purchase, and the wealthy, deluxe format of this second edition gave the book respectability and permanence. The fullest and most sophisticated text is that of [this] the second version, the Library Standard edition. Nightingale's additions, which originated in this second version, are considerable and important." (*Notes on Nursing, The Commemorative Edition with Historical Commentary* by Victor Skretkowicz, p. xvii.)

See G&M 1612; Grolier One Hundred (Medicine), 71; and Lilly, *Notable Medical Books*, 215. Bishop & Goldie, *Bio-bibliography*, 5.

The Definitive Edition

106. NIGHTINGALE, Florence. Notes on Hospitals. Third edition, enlarged and for the most part re-written. London: Longman… 1863.

Large 8vo, pp. ix, 1 leaf, pp. 187, 11 folding plans of hospitals, 3 folding samples of forms, and 2 large folding plans of London and Paris. Tear in fold of the large plan of Paris neatly repaired. Original dark mauve cloth (spine neatly repaired), brown endpapers, uncut. Paper very slightly browned in the margins, but a very good copy. Inscribed at the top of the title-page "Presented to W.J. Nixon Esq. by the Council of the Nightingale Fund, Decmber 1874" and with the Fund's blind stamp adjacent (William J. Nixon, House Governor, the London Hospital); signature of E.W. Goodall, Hampstead, Jan. 2 1907.

£3600

Third and definitive edition. See G&M 1611, the first separate edition of 1859, consisting of 108 pages, and very similar in appearance to *Notes on Nursing.* "The little book, revolutionary in character, set the seal on Miss Nightingale's authority on the subject of hospitals, and gave a new direction to their construction" (Sir James Paget in 1859). For this third edition, Miss Nightingale wrote in the preface that it had been "necessary to rewrite the whole of it, and to make so many additions to the matter that it is in reality a new book." The new edition caused *The Lancet* to say of it in 1864 that "no one has studied the great subject with which this important book deals so thoroughly as its authoress."

Bishop & Goldie, *Bio-bibliography*, 101.

District Nursing

107. NIGHTINGALE, Florence. Organization of Nursing. An account of the Liverpool Nurses' Training School, its foundation, progress, and operation in hospital, district, and private nursing. By a member of the committee of the Home & Training School. With an introduction, and notes, by Florence Nightingale. Liverpool: A. Holden… London: Longman,… 1865.

8vo, pp. (viii), 9–103, lithographed frontispiece of the school, and 1 lithographed plan. Original limp blue cloth, lettered in gilt on the upper cover, rebacked to match and with blue cloth reinforcing the inner hinges, but a very good copy.

£1200

FIRST EDITION. Liverpool was a pioneer city in the training of nurses, and the first district nurse began work there in 1860. "The Liverpool Training School and Home for Nurses was founded by William Rathbone in 1862, after consultation with Miss Nightingale. This was the beginning of a long and fruitful association which was to result in the organization and development of district nursing and workhouse infirmary nursing, both of which were first tried out in Liverpool, and later extended to other parts of the country" (Bishop & Goldie). This scarce work is an account of the founding and operation of the School; it includes an introduction and numerous notes by Florence Nightingale, and is dedicated to her. Bishop & Goldie 14.

108. NIGHTINGALE, Florence. Life or Death in India. A paper read at the meeting of the National Association for the Promotion of Social Science, Norwich, 1873. With an appendix on life or death by irrigation 1874. London: Printed by Spottiswoode & Co., [Upper wrapper: London: Harrison and Sons...], 1874.

8vo, pp. 63, (1). Original pale blue stiff wrappers. Slight damage to ends of spine, trace of a label removed from foot of upper wrapper and traces of three very small labels remaining, two library stamps on verso of title-page, otherwise a fine copy. Inscribed faintly by Nightingale at the top of the upper wrapper: "Florence Nightingale, With love Nov '74".

£1950

FIRST SEPARATE EDITION (this paper was also published in a journal and in a report in the same year). "This paper, written by special request for the Social Science Congress held in 1873, reviewed the progress which had been made in the field of sanitary reform since 1863, when Miss

continued...

Nightingale had presented her paper, 'How People may live and not die in India', to the Congress of that year. As she points out in the present paper, even that supposedly insuperable bar to progress, the caste system, had given way before the obvious advantages of pure water… In her Appendix on 'How to Make Irrigation Healthy', she points out that although much has been achieved, it is as nothing when compared with what remains to be done… Her approach to the economic problem involved is entirely realistic and startlingly modern… In the Conclusion, Miss Nightingale looks forward to an ideal state towards which, even today, India has a long way to go…" (Bishop & Goldie).

Bishop & Goldie 66 (ii).

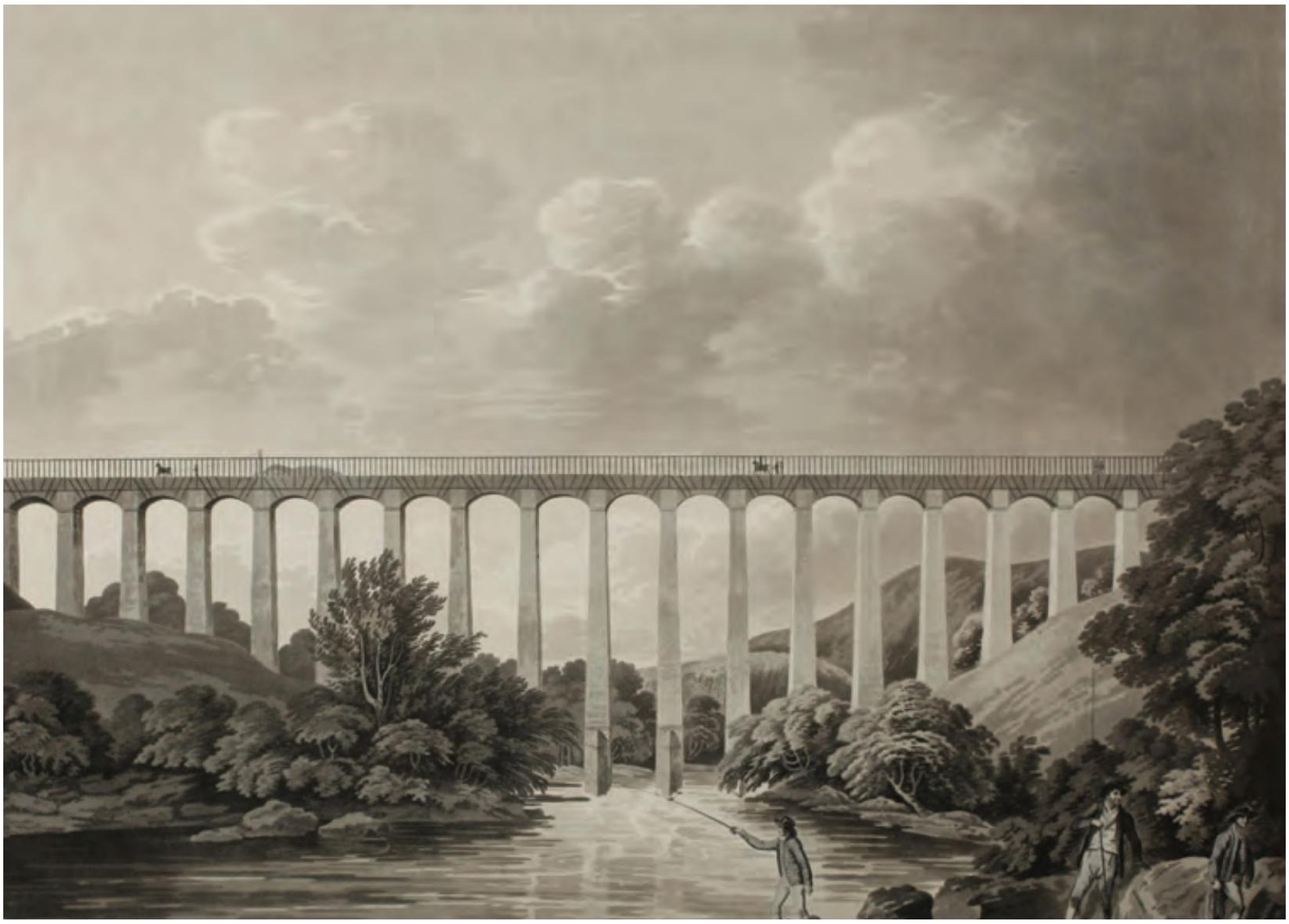
The Supreme Engineering Achievement of the Canal Age

109. PARRY, Jonathan. To Sir Watkin Williams Wynne Bart. This View of Pontcysyllte Aqueduct, North Wales is respectfully inscribed… Wrexham: Published by J. Parry, Bryn y Fynnon. Sold by Messrs Clay & Scriven… and Colnaghi & Co…London. March 1st 1806.

Engraving and aquatint (48 x 60.5 cm) by F. Jukes from an original drawing by J. Parry. Slight dust soiling overall, single tiny hole near the top edge neatly repaired.

£1100

"Telford's engineering career developed from 1793 on his appointment as 'General Agent, Surveyor, Engineer, Architect and Overlooker' (Gibb, 28) to the important 68-mile Ellesmere Canal, joining the rivers Mersey, Dee, and Severn. The canal, now a thriving leisure facility, still makes use of many buildings and structures designed and built under Telford's direction. The most remarkable is Pontcysyllte cast-iron aqueduct over the Dee, based on his embryo sketch design of March 1794, except for the piers, but not developed until after the iron trough concept had been proved operationally at Longdon-on-Tern aqueduct on the Shrewsbury Canal in 1795–6. At Pontcysyllte, with the support and approval of William Jessop, Telford deviated from traditional bulky masonry construction by building eighteen upright masonry piers and forming nineteen arches with cast-



109 Parry

continued...

iron ribs supporting an iron trough with 1 in. thick sides, 1007 ft. long and 126 ft. high. The ironwork was made and erected by William Hazledine, the masonry was built by John Simpson, and the whole supervised by Matthew Davidson. The result, the supreme engineering achievement of the canal age, was still in service in 2003. Sir Walter Scott thought it 'the most impressive work of art he had ever seen' (*ibid*., 35) (*ODNB*). It is still the longest navigable aqueduct in Britain.

Skempton does not list any work on the Pontcysyllte aqueduct. This fine and large engraving is probably therefore the first and best contemporary illustration of this pioneering structure. It includes a summary of the construction details in the lower right corner.

110. PEARSON, George. [1] Directions for impregnating the Buxton-water, with its own and other gases; and for composing artificial Buxton-water. London: printed for the Author. 1785. [*Bound with:*]
[2] Observations on the effects of Variolous Infection on Pregnant Women. From the Medical Commentaries, volume XIX. Page 213. [*Bound with:*]
[3] An Examination of the Report of the Committee of the House of Commons on the claims of remuneration for the Vaccine Pock Inoculation: containing a statement of the principal historical facts of the vaccina. London: Printed for J. Johnson… 1802.

3 works in 1 volume, 8vo. [1]: pp. (ii), 16 [i.e. 19], (1), engraved frontispiece. Frontispiece offset onto title-page. [2]: pp. 48, 82–86 (Appendix), 2 (blank). Half-title and last page of text a bit dust-soiled. [3]: 2 leaves, pp. 188, (8), stipple-engraved frontispiece printed in two colours. Some foxing. Three works bound together in contemporary half calf, upper joint cracked at foot but holding. The first work is a presentation copy, inscribed "Mr. Bower, with respect from the Author" (slightly cropped); and with the armorial bookplate of Henry Bower F.S.A. Henry Bower, of 38 Great Marlborough Street, was the guardian of the bookbinder Francis Bedford (1799–1883).

£650

[1]. FIRST EDITION. Pearson's second book on the analysis of Buxton water. See Partington III, pp. 694–695. Waring, *Bibliotheca therapeutica*, p. 786.
[2]. OFFPRINT, with the Appendix, which appears to be inserted here from another work.
[3]. FIRST EDITION. "In December 1799, he opened, without informing Jenner of his intention, an institute for vaccination, which he was to head, at 5 Golden Square. Though Pearson shortly afterwards invited Jenner, in a rather offhand manner, to be a corresponding physician, the latter resolutely refused the offer. The ensuing quarrel culminated in 1802 with Pearson's intense opposition to Jenner's successful petition for government compensation for loss of earnings resulting from his preoccupation with promoting vaccination. At the hearing Pearson attempted in several ways to belittle Jenner's achievement" (*ODNB*). See LeFanu, p. 77.

Classic Early Work on Optics

111. PECHAM, John. Perspectiva Communis. [Edited by Luca Gaurico.] [Colophon:] Impressum…Venetiis [Venice]: per Jo. Baptistam Sessam… 1504.

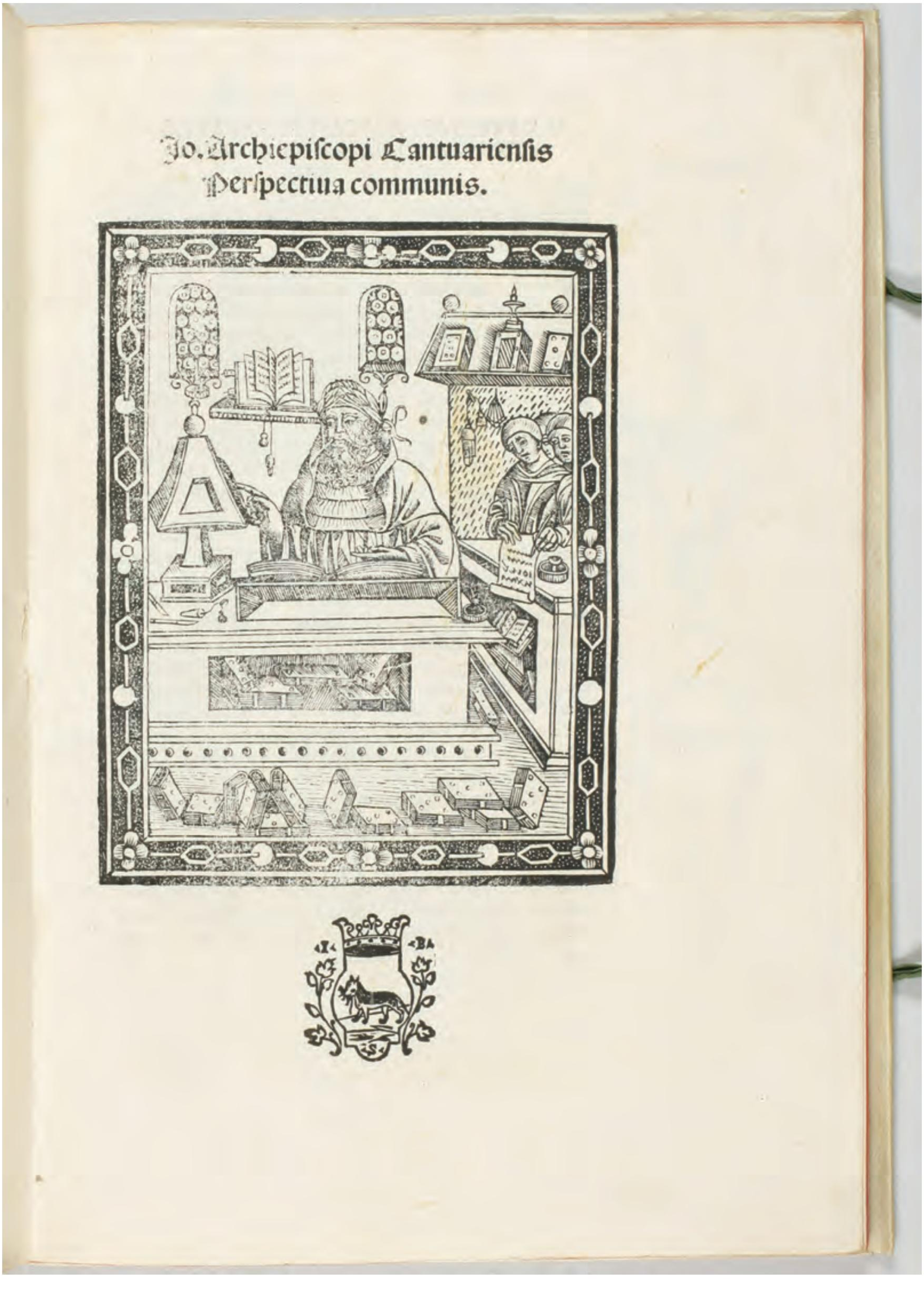
Small folio, 20 leaves. With the final errata leaf, large woodcut on title depicting a master and his students and with Sessa's cat and mouse device beneath, some fine woodcut initials, and 77 woodcut diagrams in the margins. Small repair to upper outer corner of last leaf. Modern limp vellum with ties, in a black morocco solander box. A fine and large copy. Bookplate of David L. DiLaura.

£18,000

A handsome early edition of this classic work on optics, which was the most influential text on the subject for three hundred years. Pecham endeavoured to reconcile all the available authorities — Aristotle, Euclid, Augustine, al-Kindi, Ibn Rushd, Grosseteste, Bacon, but most of all, Ibn al-Haytham or Alhazen. This is the first edition to be edited by Luca Gaurico (1476–1558), the expatriate Neapolitan scholar who also edited the works of Archimedes and Ptolemy.

"The work on which Pecham's fame has chiefly rested is the *Perspectiva Communis,* probably written between 1277 and 1279 during Pecham's professorship at the papal curia. In the first book Pecham discussed the propagation of light and color, the anatomy and physiology of the eye, the act of visual perception, physical requirements for vision, the psychology of vision, and the

continued...



Io. Archiepiſcopi Cantuarienſis
Perſpectiua communis.

111 Pecham

errors of direct vision. In Book II he discussed vision by reflected rays and presented a careful and sophisticated analysis of image formation by reflection. Book III was devoted to the phenomena of refraction, the rainbow, and the Milky Way…

"Pecham's optical system included significantly more than a theory of direct vision. He briefly discussed the doctrine of species; treated at length the propagation of rays; and developed a theory to explain how solar radiation, when passing through noncircular apertures, gives rise to circular images. He expressed the full law of reflection and applied it to image formation by plane, spherical, cylindrical, and conical mirrors; in this analysis he revealed an implicit understanding of the nature of the focal point of a concave mirror…

"The *Perspectiva Communis* was the most widely used of all optical texts from the early fourteenth until the close of the sixteenth century, and it remains today the best index of what was known to the scientific community in general on the subject" (*DSB*).

Probably the third or fourth edition (an inferior edition was published in Leipzig also in 1504); there were two incunable editions. DiLaura, *Bibliotheca Opticoria*, 8: "This…edition is particularly interesting and important." See Stillwell, *The Awakening Interest in Science*, II, 205.

112. PECHAM, John. Perspectiva tribus libris succinctis denuo correcta, et figuris illustrata, per Pascasium Hamellium mathematicum Regium. Lutetiae [Paris]: Apud Aegidium Gourbinum… 1556.

4to, 4 leaves (the last bank), 43 leaves. Without the final blank leaf l4 but with 18 other blank leaves bound in at the end. Woodcut device on title, two woodcut initials and headpieces, numerous woodcut diagrams, text printed in italics. 17th century English speckled calf, spine gilt in compartments and with red morocco label. A nice copy. Signature of W. Patten 1557 in upper corner of title, undoubtedly the first owner of this copy and possibly William Patten (d. 1598), author and government official; bookplates of the Turner Collection at Keele University, and David L. DiLaura.

£4800

Pecham's textbook of optics, the principal work on the subject from when it was written in 1279 until the end of the sixteenth century, is here edited with a commentary by Pascal Duhamel, who added new figures for the text. Duhamel, who was mathematician to the French king, used Georg Hartmann's edition of 1542 which became the standard.

Borelli's Copy

113. PECHAM, John. Perspectiva communis libri tres. Iam postremò correcti ac figuris illustrati. Colonia Agrippinae [Cologne]: Apud Haeredes Arnoldi Birkmanni. 1580.

4to, ff. 47, (1) blank. Oval woodcut Jesuit device on title, woodcut initial and headpiece, diagrams in the text. Old vellum (edges and spine repaired), new pastedowns and front free endpaper. Giovanni Battista Borelli's copy, inscribed on the title "Ex lib. Borelli" and the price paid in the same(?) hand.

£4500

A late edition of this classic work on optics (see the previous two items).

"This is the second edition of Pascal DuHamel's slight editing of, and commentary on, Georg Hartmann's edition of Peckham's optics textbook, with some additional woodcut figures in the text. This is essentially a reprinting of the edition of 1556, save that it does not include Hartmann's preface of 1542. The periodic appearance of Peckham's *Perspectiva Communis* demonstrates its continued use as a textbook on optics in the Renaissance up to the time of Kepler" (DiLaura).

DiLaura, *Bibliotheca Opticoria*, 35.

114. PECHAM, John. I tre libri della Perspettiva Commvne dell'illustriss. et reverendiss. Monsig. Gioanni Arcivescovo Cantuariense; nuovamente tradotti nella lingua italiana, & accresciuti di figure & annotationi da Gio. Paolo Gallucci… In Venetia [Venice]: Appresso gli Heredi di Giovanni Varisco. 1593.

continued...

8vo, (viii) + 48 leaves. Woodcut device on title, woodcut diagrams in the text. Light foxing throughout. 18th century French mottled calf (rubbed, ends of spine and tips of corners worn, upper joint cracking at foot), marbled endpapers, red edges. Early signature of Jo. Ant. Girardi and the name Fontanini on title; bookplates of Charles Verzon and David L. DiLaura.

£3600

FIRST EDITION IN ITALIAN of Pecham's classic work on optics, translated and with an added commentary by Giovanni Paolo Gallucci using Hartmann's edition of 1542. This was also the first translation into any vernacular language and made Pecham's work available to a wider audience.

"Gallucci's glosses feature examples taken from everyday life… The long section on mirrors discusses the reflections of colors, the angles of incidence, transparency, the function of lead on glass mirrors, mirrors made of iron or diamond, spherical or plain or shaped like a column, and the appearance of images on broken mirrors" (DiLaura).

Pecham's book was written just over three hundred years before this translation appeared, and was the most influential text on the subject throughout that time.

DiLaura, *Bibliotheca Opticoria,* 44. Pecham is identified as "Archbishop John of Canterbury" in the title.

115. PERSON, David. Varieties: or, a Surveigh of Rare and Excellent Matters, Necessary and Delectable for All Sorts of Persons. Wherein the Principall Heads of Diverse Sciences are illustrated, Rare Secrets of Naturall Things unfoulded &c. Digested into five Bookes… London: Printed by Richard Badger, for Thomas Alchorn… 1635.

4to, 23 leaves, pp. 47, (1) blank, 4 leaves, pp. 49–93, (3) blank, 2 leaves, pp. 97–178, (2) blank, 181–190, (2) blank, 2 leaves, pp. 177–256, 3 leaves, pp. 1–105. Lacking the first leaf (blank but for signature 'A'). The second to fifth books each have a separate dated title-page but the register is continuous. Title within typographical border, woodcut and typographical head- and tailpieces and initials. Title and last (blank) page a little soiled otherwise a clean copy, some headlines and side notes just shaved. 19th century calf (joints cracked but holding, tips of corners worn), spine decorated in blind. Bookplate of Leonard Harrison Matthews.

£2400

SOLE EDITION. A survey of scientific knowledge of the time. The first book contains "a discourse and discoverie of some of the rarest and most profitable secrets of naturall things, whether in heaven, aire, sea, or earth". The second book is on astronomy, especially comets and meteors, and meteorology. The third book is military, including "armies and battels", "combats and duels", "laughing and mourning". Book Four discusses "Curiosities" including the discovery of America by Columbus (pp. 199–202), and the compass. There is much of chemical interest throughout the work, especially in Book Five which contains a chapter on the philosopher's stone. Other subjects covered include 'secrets of nature', dreams, and miracles and prodigies.

STC 19781. Duveen, p. 466. Neville II, p. 295. Ferguson, *Bibliographical notes on…books of secrets,* part 4, pp. 19–20.

116. PETIT, Antoine. Extrait des Lecons de Monsieur Petit Docteur Regent de la faculté de Paris. [Followed by:] Notes sur les Maladies des trois premiers Mois de la Grossesse. [Followed by:] Cours de Physiologie par Monsieur Antoine Petit Docteur Regent de la Faculté de Paris commencé le Sept 8bre Anno 1765.

4to, 244 [i.e. 243] pages, 266 pages, 176 [i.e. 175] pages. Pp. 81–84 in the first part missing, pp. 240–243 in the first part loose but present. Contemporary calf, spine gilt in compartments (ends of spine very worn, label missing), two old paper library labels (one chipped) on spine. Corners of front endpapers and first leaf worn away, diminishing wormtrack in lower blank corner of some 20 leaves towards the end. Pencilled ex libris of William O'Grady, Ireland 1819 on rear endpaper.

£1800

MANUSCRIPT in three parts in a very legible hand, probably a fair copy although the first and third sections end in the middle of a sentence (there are no blank leaves).

continued...

The first and second parts are on obstetrics and the third is on physiology. The first begins with female anatomy, and progresses to generation and the signs of pregnancy. The greater part is on the illnesses during the first three months of pregnancy, the middle of pregnancy, and the last three months, followed by illnesses of the foetus in the womb. The second part begins with the same three periods of pregnancy and then goes on to natural birth and assisted birth. With the fortieth lecture begins a section on abnormal conditions of the child and the mother, including hernia and caesarean section, etc. The last part of this section is on the care and cure of abnormal conditions of the infant.

The third section, on physiology, includes lectures on the choice of food and drink, digestion, bile, chyle, blood vessels, the function of the heart, the pulse and the blood (a long section), secretion, etc. etc.

According to Hirsch, the lectures of Antoine Petit (1722–1794) on anatomy, surgery, medicine and especially obstetrics were very well attended and he himself was one of the most respected and beloved practitioners in Paris. In 1746 he became regent and in 1760 member of the Académie des Sciences (although he is still described as Régent in this manuscript dated 1765). Later he was appointed to the chair of anatomy at the Jardin du Roi.

117. PETIT, Jean Louis. A Treatise of the Diseases of the Bones… Translated from the French… London: Printed for T. Woodward… 1726.

8vo, pp. xvi, 490, (6), numerous woodcuts in the text. Two short wormtracks in endpapers and first and last few leaves not touching the text. Contemporary panelled calf (ends of spine and tips of corners neatly repaired), spine gilt in compartments, red morocco label, a nice copy. Signature of John Courand(?) 1750–1 at top of title, several signatures of Thomas Sperry dated 1794 and 1795 on endpapers.

£1500

FIRST EDITION IN ENGLISH. See G&M 4300 (first edition, in French, of 1705). This substantial book is the first important work on the diseases and injuries of bones and joints. It had a profound influence on orthopaedic surgery of the eighteenth century, and included the first description of osteomalacia. It was the only book Petit published during his lifetime. This anonymous translation was made from the enlarged French edition of 1723, and is very scarce.

118. PHILLIPS, Nigel. Diving and Underwater Technology 1405–1830. A narrative bibliography. [Chilbolton:] Printed for the author, 2018.

2 volumes, 4to, 894 text pages, with frontispiece and 289 other illustrations (many in colour). Cloth, gilt. New.

£150

FIRST EDITION. This history and bibliography of diving and underwater technology recounts the development of diving and diving apparatus from the beginning of technological writing in the West to when it became possible to provide a continuous supply of air to a diver under water. It studies all the printed books and numerous manuscripts on the subject produced between 1405 and 1830, and reveals why the most important innovations occurred when they did. Up to about 1730 most of the principal entries include the complete text either in the original English or in an English translation, together with any illustrations. Profusely illustrated and with detailed bibliographies of all the sources, this is an essential work for technology libraries, collectors and historians.

119. PIDDINGTON, Henry. The Sailor's Horn-Book for the Law of Storms: a practical exposition of the theory of the law of storms, and its uses to mariners of all classes in all parts of the world, shewn by transparent storm cards and useful lessons. The second edition, with additions. London: Published by Smith, Elder and Co… 1851.

8vo, pp. xxiv, 360, 1 folding barometrical chart (torn without loss and repaired from behind), 4 folding charts of different oceans with 3 leaves of references (one folded), and 2 transparent storm cards in pockets on the front and rear endpapers. Original brown cloth, faded, rubbed and worn on the tips of corners and fore-edge, endpapers dust-soiled but the text clean. Presentation copy, inscribed by the author: " Rear Admiral Austen C.B. etc etc with the Author's respectful Comp[limen]ts".

£300

continued...

Second edition. “Piddington's most abiding contribution, however, was to the understanding of maritime meteorology, and to the appreciation of tropical cyclones as a natural hazard of titanic impact on land. In 1839 he began research on the hurricane which occurred in the Bay of Bengal on 3–5 June that year, the first in a series of influential memoirs on the storms of the Indian seas. Inspired by the publication of Colonel William Reid's *Attempt to Develop the Law of Storms* (1838), Piddington's research was based on logs, data, and information from ships' captains, interpreted in the light of his own maritime experience. This work came to the attention of the government of India, which on 11 September 1839 invited observations of extreme meteorological phenomena; these would be sent to Piddington for his collation. Piddington also corresponded with R. W. Redfield, who was actively investigating the formation of storms in and around North America.

“The result was *The Horn-Book for the Law of Storms for the Indian and China Seas* (1844). Written in terms seamen could understand…the book was immediately adopted by mariners and the shipping world generally. An expanded edition, entitled *The Sailor's Horn-Book for the Law of Storms*—the work for which he is now chiefly remembered—was published in 1848. In it Piddington introduced the term 'cyclone', derived from a Greek word meaning coiled like a snake, to emphasize the helical character of cyclonic air movements… The traditional character of a hornbook was maintained by placing within the dust jacket thin plates of translucent horn, each engraved with the diagram of a cyclone and the points of a compass. When one of these plates of horn was placed on the ship's chart, a comparison of the existing wind direction with the diagram indicated the source of an approaching cyclone, and allowed the vessel to take an avoiding course… *The Sailor's Horn-Book* ran to six editions and was recognized as the standard book on the subject for thirty years” (*ODNB*).

Shaw, *Manual of meteorology,* pp. 293 and 297–298.

Second Earliest Printed Work on the Eye

120. [PIERRE DE LIMOGES.] Liber de Oculo Morali. [No place, printer or date; Augsburg: Anton Sorg, c. 1477.]

Folio, 61 leaves (of 62, lacking the initial blank). Without signatures or pagination, 39 lines plus headline, incipit on f. 9 preceded by 7 leaves containing a table of contents by Mathias Farinator, large capital supplied in red and text rubricated on f. 9. Bound in half russia by Bauzonnet between 1831 and 1840, spine ruled in gilt (joints rubbed and cracked at ends), marbled sides and endpapers. A few leaves with short early marginalia, old library stamp on flyleaf. Very fine copy with wide margins.

£27,500

Second edition of “the second earliest printed work on the eye, Grassus's *De oculis* (1474) being the first” (Becker). It contains a description of the eye, together with a brief account of eye diseases and their treatment.

Written in the late 13th century, *De Oculo Morali* was produced for preachers in the hope of making homilies interesting and relevant by making morals parallels to the principal aspects of *Perspectiva* — the medieval study encompassing the eye, vision, and optics. *Perspectiva* originated with *De Aspectibus,* the Latin translation of *Katib al-Manazir* by the great Arabic scholar known in the West as Alhazen. Much of the natural philosophy of vision in the *Kitab al-Manazir* found its way into *De Oculo Morali*, via *De Aspectibus,* becoming similes for the moral life.

Although the author was given in the book as John Pecham (Joannis Pithsani), Archbishop of Canterbury, the treatise was written by Pierre de Limoges, a physician, astronomer and cleric who helped to found the Sorbonne at the end of the thirteenth century. The work was first printed Anton Sorg not after August 1476.

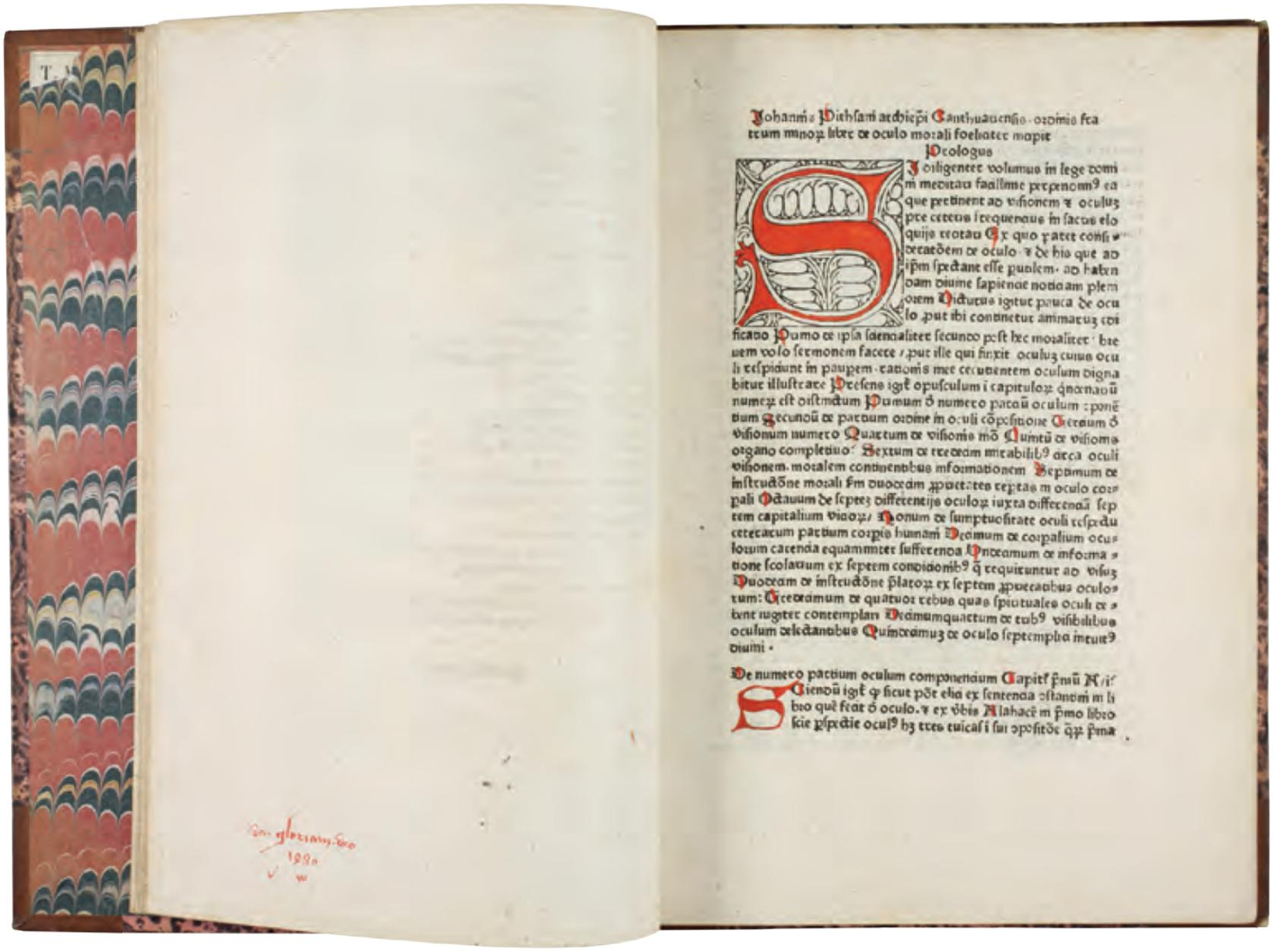
Klebs p. 243 (reference only, under Peckham). DiLaura, *Bibliotheca Opticoria*, 1. Becker catalogue 222 (Italian edition, under Lacepiera). Wellcome I, 5028. Sarton II, p. 1029.

121. [PIERRE DE LIMOGES.] Liber de Oculo Morali. [Colophon:] Impressum Venetiis [Venice]: per Joannem Hertzog [Johannes Hamman], April 1496.

Small 8vo, 64 unnumbered leaves. Printed in double columns, 35 lines, title-page with large woodcut. Near-contemporary wooden boards with remains of a bind-stamped morocco spine on upper cover, rebacked, new endpapers, clasp missing. A clean copy. Bookplate of M. Novati.

£15,000

continued...



120 Pierre de Limoges

Probably the third edition (there were three editions published in Venice in 1496) of "the second earliest printed work on the eye, Grassus's *De oculis* (1474) being the first" (Becker). See the previous item.

"The purpose of the *De oculo morali* is purely ethical but it contains a description of the eye, together with a brief account of eye diseases and their treatment" (Sarton II, p. 1029). On the title-page is a woodcut of a monk teaching, and pointing to his eye.

Klebs p. 243 (reference only, under Peckham). DiLaura, *Bibliotheca Opticoria*, 6. Becker catalogue 222 (Italian edition, under Lacepiera). Wellcome I, 5029 (Italian edition).

Lord Lister's Copy

122. POORE, G[eorge] V[ivian]. Lectures on the Physical Examination of the Mouth and Throat. With an appendix of cases. London: Printed by J.E. Adlard… 1881.

8vo, 3 leaves, pp. 73, (1). First 3 leaves loose at foot. Original red cloth (a little faded and slightly soiled, ends of spine worn). Lord Lister's copy, inscribed on the front free endpaper "Professor Lister FRS With the Author's Compliments".

£120

FIRST EDITION IN BOOK FORM, having been published in *The Lancet* the year before. Poore started the specialist throat department at University College Hospital in London, in 1876, although he had no specialist instruments and was not a specialist ENT surgeon.

123. POPE, Thomas. A Treatise on Bridge Architecture; in which the superior advantages of the flying pendent lever bridge are fully proved. With an historical account of different bridges erected in various parts of the world, from an early period, down to the present time. New York: Printed for the author, by Alexander Niven… 1811.

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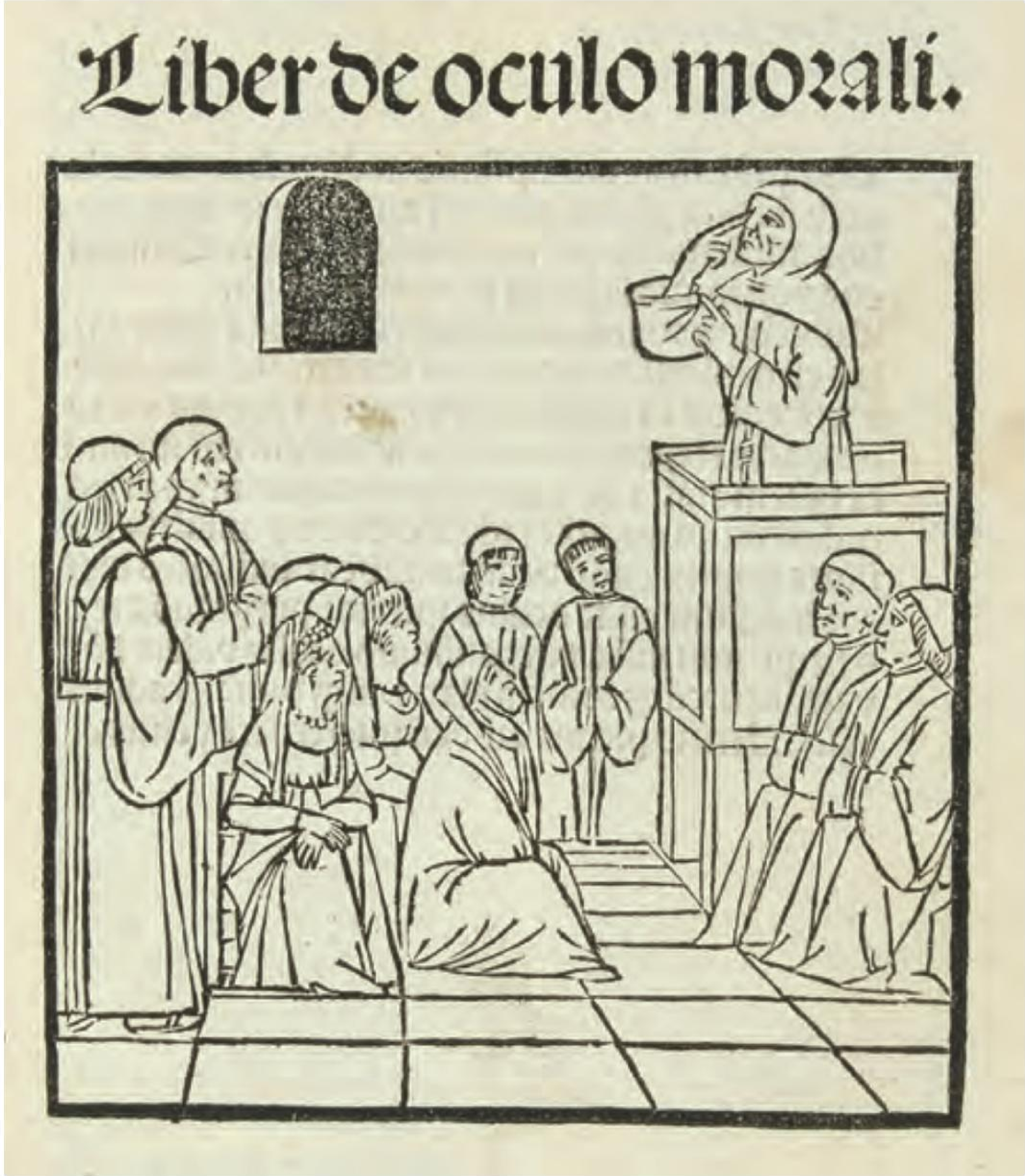


Liber de oculo moꝛali.

121 Pierre de Limoges

8vo, 9 leaves, pp. (ix)–xxxii, pp. (33)–288, 18 engraved plates mostly from drawings by the author, and some with erratic numbering. With the half-title and errata leaf. The first plate is bound as a frontispiece, the second plate is a duplicate on ordinary paper of the last plate. Original orange boards (a little worn round the edges) and sheep spine (restored and coloured black). Paper lightly browned and plates spotted (probably as in most copies). Signature in three places of Geo. M. Cargan, New Orleans, 1840; signs of the Franklin Institute bookplate removed; bookplate of the Bibliotheca Mechanica.

£750

FIRST EDITION. The first American book on bridge building.

More than half of the book is an historical account of bridges of all periods and in all parts of the world, with an index giving their locations, dates and spans. This is followed by a mathematical description of the author's patented design of a "Flying Pendent Lever Bridge", with details of its advantages and a schedule of costs. The third part is on the strength of timber and other materials, and the last part gives a description of Pope's "Patent Chain Bar Arc", which promises to "carry any weight required, without lateral pressure…"

Roberts & Trent, *Bibliotheca Mechanica,* p. 264 (this copy).

124. PORTA, Giambattista della. De Refractione Optices Parte. Libri novem. 1 De refractione, & eius accidentibus. 2 De pilae crystallinae refractione. 3 De oculorum partium anatome... 4 De visione. 5 De visionis accidentibus. 6 Cur binis oculis rem unam cernamus. 7 De his, quae intra oculum fiunt... 8 De specillis. 9 De coloribus ex refractione... Neapoli [Naples]: Apud Jo. Jacobum Carlinum, & Antonium Pacem, 1593.

4to, 6 leaves, 230 pages, 1 leaf (imprimatur). Including the inserted dedication leaf and its conjugate blank. Woodcut device on title, woodcut headpieces and initials, diagrams in the text. Some foxing,

continued...

and paper of some gatherings browned, several small holes in blank areas of title, small hole in 10 leaves with loss of a few letters in 3 leaves. Eighteenth century vellum-backed boards, spine lettered in manuscript. Two early signatures on title deleted; signature of R.S. Creed, 1955, on front endpaper.

£4750

FIRST EDITION. "Porta's contribution to the theory and practice of Renaissance optics is found in book XVII of the *Magiae* of 1589…[expanded into] the *De refractione* of 1593. He did not invent the camera obscura, but he is the first to report adding a concave lens to the aperture. He also juxtaposed concave and convex lenses and reports various experiments with them… His comparison of the lens in the camera obscura to the pupil in the human eye did provide an easily understandable demonstration that the source of visual images lay outside the eye as well as outside the darkened room. He thus ended on a popular level an age-old controversy. Porta's work lies conceptually and chronologically between Risner's *Opticae Thesaurus* of 1572 and Kepler's *Ad Vitellionem paralipomena* of 1604" (*DSB*).

Parkinson, *Breakthroughs*, 1593. DiLaura, *Bibliotheca Opticoria*, 45. Osler 3720, noting that Haeser calls Porta the founder of modern optics. Not in the Becker catalogue, which has the *Magiae naturalis*. Albert, Norton & Hurtes 1831: "…one of the principle founders of modern optics." The leaf of dedication to Octavio Pisani, "Adolescenti erudito", inserted between the title and A2, is not found in all copies.

125. PORTA, Luigi. Delle Alterazioni Patologiche delle Arterie per la legatura e la torsione. Esperienze ed osservazioni... Milano: Tipografia di Giuseppe Bernardoni di Gio, 1845.

Large 4to, pp. x, 439, (1), and 13 aquatint plates (all but one folding). Half-title. Original(?) vellum, bevelled edges. A little foxing in the text, binding a little soiled and slightly rubbed on the spine, otherwise a very good copy.

£650

FIRST EDITION of Porta's most important book. "By his research on the pathological changes caused to arteries by ligation and torsion he contributed to establishing the foundations of modern vascular surgery.

"Beginning in 1835 he made an extensive series of animal experiments on more than 270 animals of various species. He continued these investigations for nine years, and his results, coupled with his clinical observations, led him to significant discoveries concerning experimentally induced pathological changes of the arteries. Among these, his findings on the manner in which collateral circulation is established following the obliteration of parts of the arteries are of particular interest.

"In his work Porta distinguished between direct collateral circulation,... and indirect collateral circulation... He also made a distinction between two types of anastomosis produced by ligation of the artery..." (*DSB*, abbreviated from a long description of Porta's work in this field).

The plates of arteries in this book are of superb quality. Porta was Scarpa's successor at Pavia, where he created the Anatomico-Surgical Museum.

Best Collected Edition

126. POTT, Percivall. The Chirurgical Works. London: Printed for Hawes, W. Clarke, and R. Collins… 1775.

Large 4to, 4 leaves, pp. (5)–802, and 12 engraved plates. Tear in lower margin of Pp2 repaired on verso at an early date. Contemporary diced russia (joints neatly repaired), spine richly gilt, green morocco label, sides with floriated gilt borders and inner dentelles, marbled endpapers, yellow edges.

£1800

Collected edition of this great surgeon's works, and the only one in quarto. It includes his works on wounds of the head, ruptures, fractures and dislocations, chimney sweeps' cancer, etc., etc. Pott was surgeon to St. Bartholomew's Hospital, and the principal English surgeon of his time.

First Published Illustration of Watt's Steam Engine

127. PRONY, Gaspar C.F.M.R. de. Nouvelle Architecture Hydraulique, contenant l'art d'élever l'eau au moyen de différentes machines, de construire dans ce fluide, de le diriger, et généralement de l'appliquer, de diverses manières, aux besoins de la société. A Paris: Chez Firmin Didot, 1790 (–1796).

2 volumes, 4to, pp. xii, 621, (3), 72, and 15 folding engraved plates; 1 leaf, pp. 38, 203, (1), and 38 large folding engraved plates. Half-title in volume 1. Modern marbled boards using old materials (a few small nicks in ends of spines), red morocco labels on spines, uncut, a fine and large copy.

£2200

FIRST EDITION. "Prony's *Nouvelle Architecture Hydraulique* is the first French work to deal with the Watt engine of which it contains the earliest published illustration. The work as a whole is concerned with the raising of water but was written in two parts divided in date owing to the French Revolution. The first part is largely devoted to the principles of statics, dynamics, and hydrodynamics but its final section and the whole of the second part show the practical application of these theories, in particular to the steam engine…

"Quite apart from its role in the development of engineering education in France, the book is of significance for what it reveals on the spread and influence of the Watt engine, more so as Prony received so much of his information first hand from those involved" (from a longer description by Julia Elton, Catalogue 9, describing this copy).

The magnificent, large and detailed engraved plates include, among many others, an illustration of the first of Watt's engines to be erected in France, known as the Chaillot engine, and of the first steam engine built entirely in France, by the Périer brothers.

Hogging and Sagging

128. REED, Edward J. On the Unequal Distribution of Weight and Support in Ships, and its effects in still water, in waves, and in exceptional positions on shore. From the Philosophical Transactions.—Part II. 1871. London: Printed by Taylor and Francis… 1871.

Large 4to, title leaf + pp. 413–465, and 6 lithographed plates (numbered XVI–XXI) of diagrams. Contemporary blue morocco, sides with ornate gilt border, spine gilt, marbled endpapers with inner gilt dentelles, gilt edges; a fine presentation binding with the author's monogrammed initials in nautical emblems in centre of upper cover. Bookplate of Robert J. Hayhurst. Presentation copy, inscribed on front free endpaper "Arthur Wilson Esq. etc. etc. With the kind regards of The Author. Kirk Ella, Feb. 29, 1872."

£450

OFFPRINT of Reed's highly important paper on naval architecture.

The first comprehensive theory of structural loading was by W.J.M. Rankine in 1866, who showed that a curve could be drawn showing how the load varied along the length of the ship. Reed realised the importance of Rankine's work and initiated action within his department to apply it to ship design. The work was carried out by White and John (acknowledged on the last page), and led to the present paper by Reed to the Royal Society. The implications of this work were enormous. Once the weight distribution was obtained, the waterline at which the ship was balanced on a wave in both the hogging and sagging condition had to be found and hence the distribution of buoyancy. Once the loading on the hull was known, it was possible to design a structure without excessive factors of safety, leading to significant weight saving. See David K. Brown, *Warrior to Dreadnought. Warship design and development 1860–1905*.

"Under Reed there was a complete revolution in the way ships were designed; rules of thumb gave way to calculations based on theoretically sound principles and careful experiment" (*ODNB*).

129. ROY, William. An Account of the Trigonometrical Operation, whereby the distance between the meridians of the observatories of Greenwich and Paris has been determined. From the Philosophical Transactions. [No place, printer or date; London: 1790.]

continued...

4to, 162 pages, 1 leaf (blank), 11 folding engraved plates, 4 folding letterpress tables. Some dust-soiling in the outer corners of a few leaves, otherwise a fine copy. Modern boards, uncut.

£1250

OFFPRINT (first separate edition) of Major-General William Roy's third and last paper on his triangulation connecting the Royal Greenwich Observatory with the Paris Observatory, which resolved the dispute over the difference in longitude between the Paris and Greenwich observatories, and resulted in the founding of the Ordnance Survey.

"In the triangulation of the 1780s Roy quite consciously laid the foundations for such a survey by procuring from the foremost instrument maker the most advanced equipment yet produced; by establishing a base-line at Hounslow from which triangulation could be extended in all directions — not just towards France; by elaborating methods and procedures in his papers for the *Philosophical Transactions* which were suitable for both the particular Anglo-French scheme and a more general national triangulation; and, perhaps most importantly, by securing the backing of the duke of Richmond, the master-general of the ordnance, who had lent men and equipment for the triangulation. In his description of the work Roy made clear that he saw the Anglo-French triangulation as part of a larger future British project: in his 1790 paper in the *Philosophical Transactions* he recommends "that the trigonometrical operation, so successfully begun, should certainly be continued, and gradually extended over the whole island" (*ODNB*).

The plates include the map of Kent and Sussex and the French coast, and show the instruments used in great detail, in particular Jesse Ramsden's specially made theodolite.

With a Set of the Plates

130. RUST, Johann Nepomuk. Helkologie oder Lehre von den Geschwüren. Neu bearbeitet… Mit zwölf ausgemalten Kupfertafeln und dem Bildnisse des Verfassers. Berlin: Verlag von Theod. Chr. Fr. Enslin. 1842.

Small folio, pp. xvi, 597, (1), stipple-engraved frontispiece portrait and 12 fine hand-coloured aquatint plates. A little spotting, paper of the plates browned (as usual), but a good copy. Contemporary (original?) dark brown cloth, neatly rebacked preserving part of the original spine, upper corners repaired, new endpapers.

Provenance: Louis A. Duhring's copy (1845–1913, professor of dermatology at the University of Pennsyvania), with his library bookplate at the University of Pennsylvania on front pastedown, trace of a library stamp removed from title, two other small Pennsylvania stamps at foot of title and preface.

£900

Second and better edition, and the first to be illustrated. This classic treatise on ulcers describes scrophulous, arthritic, rheumatic, scorbutic, venereal, dermatological, and cancerous ulcers; ulcers of the mucous membrane, bones, torso, and extremities; also their etiology and cure. Bibliographical details are given at the beginning of each chapter.

The first edition appeared at Vienna in 1811 without illustrations. The present edition was then published at Berlin, but some copies were issued without plates (e.g., the Wellcome copy). This copy has the plates, as the title-page states. Goldschmid p. 168.

131. RUTHERFORD, Ernest, *Lord*. Radio-Activity. Cambridge: University Press, 1904.

8vo, pp. (ii) blank, viii, (ii), 399, 1 plate. Two leaves of advertisements inserted at the end. Original green cloth. Paper very slightly browned in the margins, but a very good copy. A few annotations in the margins and numerous annotations on p. 326.

£550

FIRST EDITION. The first textbook on the subject, recognised as a classic at its publication (*DSB*). "After the discovery of thorium emanations in 1900, new concepts of atomic structure followed from the brilliant experiments of Rutherford. A new theory of atomic disintegration was proposed, then the nuclear nature of the atom. He discovered and named alpha, beta, and gamma rays emitted from radioactive salts and predicted that disintegration of some radioactive elements would generate helium. He also produced in the laboratory the first artificial transmutation of one element into another" (Dibner 51). Horblit 91. Norman Catalogue 1870.

132. SERRES, [Antoine Étienne Reynaud Augustin]. Anatomie Comparée Transcendante. Principes d'Embryogénie, de Zoogénie et de Tératogénie. Paris: Typographie de Firmin Didot Frères, Fils et Ce... 1859.

Large 4to, 1 leaf, pp. xv, 942, 1 leaf (errata), + 18 pages numbered "206—1" – "206—10" and "938" – "938—7", and 26 folding lithographed plates. Modern half morocco antique. A little dust-soiling on the edges of a few plates, otherwise a fine copy.

£1500

FIRST EDITION of Serres's principal work on embryology and teratology. "Serres's theoretical position was more closely akin to that of Geoffrey Saint-Hilaire, who regarded Serres as his collaborator. Serres believed that there was only one underlying animal type and that in the course of their development, the organs of the higher animals repeated the form of the equivalent organs in lower organisms... The distinction between a repetition of the organs of lower forms and the repetition of the actual organisms is often blurred; the latter view is sometimes called the Serres-Meckel Law.

"After 1828 belief in either version of the Serres-Meckel Law was gradually abandoned as the result of Baer's criticism, but throughout the 1840's and 1850's Serres continued to write papers in which he maintained his original views; ...in 1859 Serres produced a final memoir in which he still maintained his original views" (*DSB*).

This was Serres's largest work on the subject. The fine suite of plates illustrates incompletely separated twins, malformed organs and limbs, etc.

133. SHEFFIELD & GOOLE RAILWAY. Prospectus. Sheffield: G. Ridge, printer…[1830].

Folio, 4 pages. Including an engraved map of England showing the proposed route and surrounding towns. Unbound and designed to be folded twice with title in one vertical section of page 4, fine copy.

£200

An early prospectus for a plan to build a railway from the manufacturing city of Sheffield in South Yorkshire to the town's natural port of Goole on the river Ouse, 34 miles to the east. The engineers were to be George Stephenson & Son. The line was not built at the time, and had a complicated history beginning again with a new railway company in 1845. Not in Ottley.

134. SIEBE, Henry. The Conquest of the Sea. A book about divers and diving. London: Chatto and Windus… [1874].

Small 8vo, pp. xii (including the frontispiece), 299, + 48 pages of publisher's adverts dated May 1874. Woodcut figures in the text. Original green pictorial cloth, upper cover and spine decorated in black and gilt, bevelled edges, grey-brown endpapers, a nice copy. Neat inscription on front endpaper.

£600

FIRST EDITION of the first book-length history of diving, from the earliest times. "The science of diving has already reached a point of perfection which fully entitles it to an important place among the industries of the time" (preface). Henry Siebe was the only surviving son of the Prussian immigrant engineer Christian Augustus Siebe, founder of the firm which made the first successful diving helmets in 1830.

135. SIMS, J[ames] Marion. Clinical Notes on Uterine Surgery. With special reference to the management of the sterile condition. London: Robert Hardwicke,... 1866.

8vo, pp. (ii) half-title, viii, (ii) sub-title, 436, + Hardwicke's adverts inserted at the end. Original maroon cloth, uncut, bookplate on front pastedown. Spine faded to brown (as usual), small tear at head and foot of spine, one corner creased, but a fine copy.

£850

FIRST EDITION IN BOOK FORM. G&M 6057. Sims's most important work, and his only book. It includes a description of the speculum named after him, and his pioneering work on the treatment of infertility, including analysis of the conditions essential to conception, and his investigations

continued...

into artificial insemination. He discusses techniques of uterine surgery and pathological conditions requiring surgical intervention.

Grolier One Hundred (Medicine), 66B. See Lilly, *Notable medical books*, p. 225 (New York edition). Speert, *Milestones*, pp. 442–454. Thoms, *Classical Contributions*, pp. 235–239. Zimmerman & Veith pp. 436–457. The work was originally serialised in *The Lancet* in 1864–1865, and this first book-form edition appeared in London while Sims was in Europe during the American Civil War. This London edition is considerably rarer than the New York edition published later in the same year.

136. SMITH, Robert. The Universal Directory for taking alive and destroying Rats, and all other kinds of four-footed and winged Vermin, in a method hitherto unattempted… London: Printed for the author, 1768.

8vo, pp. iv, (iii)–vii, 218, and 6 engraved plates (4 folding). Contemporary mottled sheep (ends of spine worn, joints cracked but perfectly firm), later red morocco label on spine. Armorial bookplate (defaced with lower portion missing) on front pastedown and later bookplate of J. Hainstock Anderson on front free endpaper.

£350

FIRST EDITION. The first successful English book on the control of vermin. There had been three or four small works on catching vermin published prior to Smith's book, most of them short works now known in only a few copies or even only one copy. Smith himself published a 48-page pamphlet *The complete rat-catcher* in 1768, presumably before expanding it into the present book-length treatise which went to three editions in less than twenty years. It includes all manner of animals including some that we no longer consider vermin such as badgers, otters, owls, hawks, and the nightjar. He does include that modern nuisance, 'the sheep-killing dog'. Smith was rat-catcher to Princess Amelia, daughter of George II, and his rat trap was still being recommended by the Royal Agricultural Society of England as the best example of its kind more than a century later.

The Preservation of Grain Act of 1532 was passed by Henry VIII as a result of a series of poor harvests coupled with population growth resulting in food shortages. Therefore the Tudors declared war on that part of the wildlife population that was deemed a threat to food supplies, and it was the duty of every parishioner to despatch these pests at every opportunity. The practice continued essentially uncontrolled into the twentieth century.

137. SORBIÈRE, [Samuel] de. Relations, Lettres, et Discours…sur diverses matieres curieuses. A Paris: Chez Robert de Ninville… 1660.

8vo, pp. (xxxvi), 468, (4). With a woodcut of Saturn on p. 153, woodcut printer's device on title, woodcut headpieces and initials. Contemporary vellum, yapped edges, spine with later green morocco label and gilt rules. Some very light browning but a nice copy. Bookplate of the Gaddesden Library.

£650

SOLE EDITION. This book is often confused with Sorbière's *Lettres et discours sur diverses matières curieuses,* also published in 1660, but the present book is somewhat rarer and consequently often overlooked. Both are collections of letters and speeches or addresses to various eminent persons on a variety of scientific matters. Sorbière was one of that group of savants who, from 1657 on, met regularly at the house of Hubert de Montmort in Paris where they discussed the scientific discoveries of the day and which became a forerunner of the Académie des Sciences.

138. SPALLANZANI, [Lazzaro]. Expériences sur la Digestion de l'Homme et de différentes espèces d'animaux. Avec des considérations sur la méthode de faire des expériences, & les conséquences pratiques qu'on peut tirer en médecine de ses découvertes; par Jean Senebier. A Geneve: Chez Barthelemi Chirol, libraire. 1783.

8vo, 1 leaf, pp. CXLIX, (i), 320. Contemporary sheep-backed boards, flat spine richly gilt, red edges, boards a little marked but a nice copy. Contemporary note of purchase in Cremona from Manini inside rear cover, gilt monogram with coronet in lower corner of upper cover and small paper shelf label on spine.

£325

continued...

FIRST EDITION IN FRENCH of Spallanzani's important study of digestion, volume 1 of his *Dissertazioni di fisica animale e vegetabile*, Modena 1780 (G&M 981), in which he discovered the action of saliva in digestion, confirmed the solvent power of the gastric juice (a term introduced by him), and showed that it prevented putrefaction. To this volume Senebier prefixed his own *Considérations sur la méthode suivie par Monsieur l'Abbé Spallanzani dans ses expériences sur la digestion* (149 pages).

Prandi p. 81; an extract, but not the whole volume, had previously been published in French translation in the *Journal de Physique*.

139. SPALLANZANI, [Lazzaro]. Programme ou Précis d'un Ouvrage sur les Réproductions Animales. Traduit de l'Italien, par Mr. B****** de la Sabionne. A Geneve, Chez Claude Philibert, 1768.

Small 8vo, pp. vii, 102, + an inserted leaf of dedication to the Abbé Nollet. Several woodcut ornaments. Modern half calf antique, spine gilt in compartments. Inscribed in a contemporary hand in the lower margin of the title "Madame Arouet".

£750

FIRST EDITION IN FRENCH of the *Prodromo...sopra le riproduzioni animali,* and the first work of Spallanzani to be published in a foreign language. See G&M 101. Spallanzani first advanced the doctrine of the regeneration of the spinal cord. He found the precise location of those cuts in earthworms which affected the segmental regenerative process, and noted regenerative capacities of remarkable complexity and repetitiveness in the land snail, salamander, toad, and frog. By decapitation of the frog he also showed that certain postures may be maintained by a reflex action of the spinal cord. "Spallanzani established the general law that in susceptible species an inverse ratio obtains between the regenerative capacity and age of the animal. Early in 1768 he reported these findings in *Prodromo...sopra le riproduzioni animali*" (*DSB*).

Prandi, *Bibliografia di Lazzaro Spallanzani,* p. 79: "Of such rarity that several biographies of Spallanzani, citing this translation, give other publishers and the date as 1769" (in translation). Prandi records one copy only, in the Biblioteca dell'Archiginasio in Bologna. NUC locates three copies. Neither Prandi nor NUC record the inserted dedication leaf. The English translation appeared the following year, and later the same year Spallanzani was elected F.R.S.

The Translator's Copy

140. SPALLANZANI, [Lazzaro]. Tracts on the Natural History of Animals and Vegetables, translated from the original Italian…by John Graham Dalyell. With physiological illustrations by the translator. Second edition. Edinburgh: Printed for William Creech and Archd. Constable… 1803.

2 volumes, 8vo, pp. xii, 1 leaf, pp. lxxi, 334, 1 leaf (blank); 2 leaves, pp. 456, and 11 engraved plates. Contemporary red straight-grained morocco, gilt edges, marbled endpapers. Bookplate of Marshall Laird. Paper of plates browned, one or two small scuff marks on the covers, spines very slightly faded, but a lovely set. The translator's copy, with his arms in gilt in the top panels of the spine.

£950

BEST EDITION IN ENGLISH (the second edition of this translation), being enlarged to twice the size of the former edition by original matter by the translator, and by tracts on reproduction of the snail and the newt by Spallanzani and by Charles BONNET. There are also five additional plates, and an "Analytical Index" of concepts.

See G&M 102 (the original *Opuscoli di fisica, animali e vegetabile*, Modena, 1776), in which Spallanzani finalised his work on the animalcules of infusions: "Spallanzani's conclusions were similar to those expressed by Pasteur nearly a century later." Also included in this translation are his observations and experiments on human and animal spermatozoa; he was one of the earliest naturalists actually to examine and to write about the spermatozoa. He also reports on the effects of stagnant air on animal and plant life, the killing and resuscitation of Rotifera, the origin of mould, and the reproduction of the head of the snail. This work was one of Spallanzani's most outstanding publications, which "displayed unexcelled experimental skill, remarkable powers of observation, and lucid literary talent" (*DSB*). Prandi, *Bibliografia*, 95.

141. STIRRUP, Thomas. The Description and Use of the Universall Quadrat. By which is performed…the whole doctrine of triangles, both plain and sphericall… Also propositions…in astronomie, navigation, and dialling. By which is also performed the proportioning of lines and superficies: the measuring of all manner of land, board, glasse… London: Printed by R. & W. Leybourn, for Tho. Pierrepont… 1655.

4to, 5 leaves, 212 pages, and 3 engraved plates. With the longitudinal half-title, title within typographical border with sun ornament, woodcut and typographical headpieces and initials, woodcut diagrams. Some light browning throughout, but generally a very good copy. 18th century speckled calf, very neatly rebacked and edges repaired in the 20th century, and endpapers replaced at the same time. 18th century inscription of John Prior on front flyleaf.

£1600

SOLE EDITION of Stirrup's third and last book. It was preceded by his book on the carpenter's rule of 1651, and by *Horometria*, on dialling, first published in 1652. Stirrup was a specialist maker of dials, scales and quadrants.

Wing S5687. As in the ESTC, A4 has been cancelled and removed, but there is no indication in this copy that B2 is a cancel. Taylor, *Tudor & Stuart*, 222, with variant title and imprint. According to auction records, of the three copies sold in the last fifty years, this is the only complete one.

142. SYDENHAM, Thomas. Epistolae Responsoriae Duae... Prima de morbis epidemicis ab anno 1675 ad annum 1680. Ad...Robertum Brady. Secunda de luis venereae historia et curatione. Ad...Henricum Pamam. London: M.C. for Walter Kettilby, 1680.

Small 8vo, 1 leaf, pp. 129, 1 leaf (errata); without the initial blank. Title within rules. 19th century presentation inscription at top of p.1. Library stamp at foot of title recto and verso, and on p.101; margins slightly browned and one or two headlines just shaved, otherwise a very good copy. Mottled calf antique.

£750

FIRST EDITION of Sydenham's second book, taking the form of two letters, the first on the epidemic diseases of 1675 to 1680, the second on venereal disease. "His chief contributions to medicine were: first, his observations on the epidemic diseases of successive years, which have been the model of many similar researches... " (*DNB*). Sydenham published only five works in his lifetime, and one posthumously of which no copy is known. First editions of his books are seldom seen on the market.

Wing S6310. For a further study of Sydenham's theory of epidemics, see Major Greenwood in *Proc. Roy. Soc. Med.*, vol. XII, 55–76, 1919.

143. THOMPSON, Sir Benjamin, Count Rumford. Essays Political, Economical and Philosophical. London: Printed for T. Cadell Jun. and W. Davies… 1797 (–1798–1802).

3 volumes, 8vo, pp. (xxvi), 464; (viii), 310, (2) blank, (iv), 389–496, and 9 engraved plates (1 folding); 2 leaves, pp. vii, 191, 7 leaves (woodcut illustrations and errata), pp. (viii), 193–498, 1 leaf (adverts), and 7 engraved plates. With 6 leaves of woodcut illustrations in vol. 1 and an engraving on p. 3, and 6 leaves of woodcut illustrations in vol. 3, other woodcuts in the text, half-title in each volume. Contemporary calf, flat spines ruled in gilt and with black labels and black oval numbering labels. Top of spine of vol. 1 chipped, some foxing on endpapers, but a very nice set.

£1200

FIRST EDITION of the complete 3-volume set, containing 15 essays; third edition of volume 1 (”The third edition”), first edition of volume 2, and of volume 3 despite ”A new edition” on the title-page.

These three volumes contain 15 essays on an establishment for the poor in Bavaria, and on the principles for such establishments; of food, particularly for the poor; on chimney and kitchen fireplaces and the economy of fuel; on the propagation of heat in fluids and other substances; on friction as a source of heat; on the use of steam for transporting heat; and on the salubrity of warm bathing. Much space is devoted to domestic science: Thompson studied air currents in open fireplaces and introduced several elements of their design found in modern chimneys, thus increasing their efficiency. He studied domestic cooking stoves and utensils in great detail, inventing the enclosed kitchen range, the coffee percolator, and steam heating systems for houses and even large buildings.

continued...

In a remarkably varied career Thompson received many honours in England, America, Germany, and elsewhere, and established prizes for scientific research in America and England. In London he founded the Royal Institution.

The first volume of this complicated book was first published in parts in 1796; the text of the third volume was evidently published before the title-page, and the first three parts were available separately.

See Parkinson, *Breakthroughs*, 1797 (in the essay "On the propagation of heat in fluids" Thompson discovered the circulation of ocean currents; 1798 (the essay on friction as a source of heat showed that heat is a form of energy), and 1799. See also Sparrow, *Milestones of Science*, 189.

144. THOMSON, Anthony Todd. A Practical Treatise on Diseases affecting the Skin.

Completed and edited by Edmund A. Parkes… London: Printed for Longman, Brown, Green, and Longmans… 1850.

8vo, pp. xxxii, 440. Original brown blind-stamped cloth (somewhat rubbed, neatly rebacked preserving the original backstrip), yellow endpapers (slightly soiled, small piece missing from fore-edge of rear free endpaper, inner hinges strengthened with tape).

£180

FIRST EDITION. Thomson was a general practitioner but became a specialist in diseases of the skin. A pupil of Bateman, Thomson edited the seventh edition of his *Practical Synopsis of Cutaneous Diseases* (1829) and published an atlas to illustrate its descriptions. In the 1830s and against the bitter resistance of the British medical establishment Thomson set up a small skin clinic at University College Hospital, which was one of the first, if not the first, in the country. He died before he could finish the present text-book but it was completed and edited by Edmund Parkes.

145. TURNER, [Daniel]. Traité des Maladies de la Peau en general; avec un court appendix sur l'efficacité des topiques dans les maladies internes, & leur maniére d'agir, sur le corps humain. Traduit de l'Anglois du Docteur Turner, par M. ***. A Paris: chez Jacques Barois, fils,…1743.

2 volumes, 12mo, pp. xxii, (ii), 367, (15), (2) blank; (iv), 339, (17). Contemporary French mottled sheep, flat spines ruled in gilt with gilt centres, red morocco labels, marbled endges and endpapers. Small area at top of spine of vol. 2 rubbed, slight wear to top of both spines, but a very nice set.

£750

FIRST EDITION IN FRENCH and the first book on dermatology in the French language. Just as Turner's book on dermatology was the first English book on the subject, so the French edition was the first important book on the subject to be published in France, preceding Lorry's book by some forty years. See G&M 3981 (the first edition, in English, of 1714).

Elizabethan Best Seller

146. TUSSER, Thomas. Five Hundred Pointes of good Husbandrie, as well for champion or open countrie, as also for the woodland or severall, mixed in everie month with huswiferie… Corrected, better ordered, and newlie augmented to a fourth part more… At London: Printed in the now dwelling house of Henrie Denham… 1586.

4to, pp. 160, 143–145, (1). Title within woodcut border and with the date first, text in black letter, printer's device on last page. First 7 leaves cleaned probably at the time of binding and with very neat restoration in lower corners, final leaf a little soiled and stained and with small repair in two corners, upper margin cut a little close on some leaves. 19th century green straight-grained morocco (spine faded, extremities a little rubbed and head of spine slightly worn), gilt edges and inner gilt dentelles, all edges gilt. Inscribed on front free endpaper "From the library of [William S.] Higgs / Sotheby, [26th] April 1830 / lot 672. £2/6s/– W.T. — perfect." Later in the library of Prof. Robert "Bobby" Boutflower, CBE (1890–1961), a notable figure in post-war British agriculture.

£7250

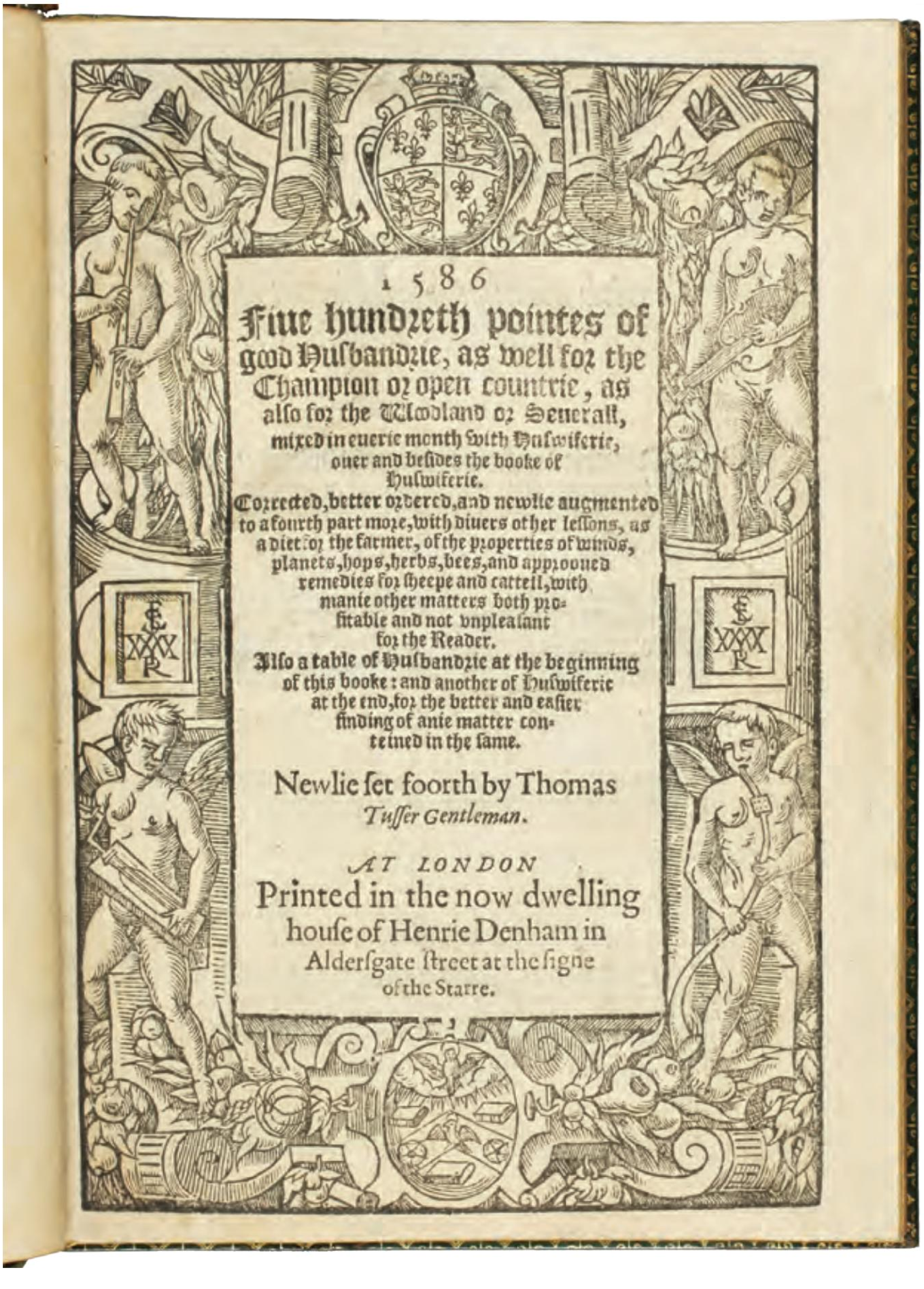
continued...

Later edition, but many of the earlier editions are known in very few copies, of the second printed book on agriculture in English, and probably the biggest-selling book of poetry of the reign of Elizabeth I.

“This celebrated book must be regarded more as a series of good farming and domestic directions and axioms, than as a regular treatise upon agriculture… Such are the works of Tusser, writings which were long the handbook of the English country gentleman. That they were popular is evidenced by the rapid succession of copious editions…

“Tusser’s book is also interesting from the information it gives us of the habits of the farmers of more than three centuries ago. It is evident that they were able to obtain fish, for in his directions for the daily diet he mentions for Lent, herrings and salt fish,…while for Christmas fare they seem to have enjoyed many of the modern standing dishes” (McDonald).

STC 24382. Fussell, *The old English farming books*, pp. 8–9. McDonald, *Agricultural writers*, pp. 23–30.



1586
Fiue hundreth pointes of
good Huſbandrie, as well for the
Champion or open countrie, as
alſo for the Woodland or Seuerall,
mixed in euerie month with Huſwiferie,
ouer and beſides the booke of
Huſwiferie.
Corrected, better ordered, and newlie augmented
to a fourth part more, with diuers other leſſons, as
a diet for the farmer, of the properties of winds,
planets, hops, herbs, bees, and approoued
remedies for ſheepe and cattell, with
manie other matters both profitable and not vnpleaſant
for the Reader.
Alſo a table of Huſbandrie at the beginning
of this booke: and another of Huſwiferie
at the end, for the better and eaſier
finding of anie matter conteined in the ſame.

Newlie ſet foorth by Thomas
Tuſſer Gentleman.

AT LONDON
Printed in the now dwelling
houſe of Henrie Denham in
Alderſgate ſtreet at the ſigne
of the Starre.

146 Tusser

With Newton's Additions

147. VAREN, Bernhard. A compleat system of general geography: explaining the nature and properties of the earth… The State of the Atmosphere; the Nature of Exhalations; Winds, Storms, Tornados, &c. The Origin of Springs Mineral-Waters, Burning Mountains, Mines, &c. The Uses and Making of Maps, Globes, and Sea-Charts. The Foundations of Dialling; the Art of Measuring Heights and Distances; the Art of Ship-Building, Navigation, and the Ways of Finding the Longitude at Sea… Since improved and illustrated by Sir Isaac Newton and Dr Jurin… The whole revised and corrected by Peter Shaw, M.D. The third edition, with large additions. London: Printed for Stephen Austen… 1736.

2 volumes, 8vo, pp. xxiv, 528, engraved allegorical frontispiece; pp. xvi, (529)–898, (14) index, and 12 folding engraved plates (plate VII is unnumbered and is a world map of prevailing winds). Titles within double ruled borders, woodcut head- and tailpieces and initials. Contemporary speckled calf (short cracks at tops of joints of volume 1 and small piece chipped from head of spine, label chipped), a nice, very clean set. Signature of John Alexander in upper margin of titles.

£400

Third edition of the second English translation, by Dugdale revised by Shaw, from the Latin edition revised in part by Newton and first published in 1672.

Varen's *Geographia generalis* (Amsterdam, 1650) was the standard geographic text for more than a century. It is in three sections: the first examines the mathematical facts relating to the earth, the second examines the effects of the sun, stars, climates and seasons, and the third treats the divisions of the surface of the earth. In this Varen laid down the principles of what is now known as regional geography. "Varenius's work long held the position as the best treatise on scientific and comparative geography" (*DSB*).

Wallis 360.02 (with incorrect collation). This edition not in Babson.

One of 30 Copies

148. VESALIUS, Andreas. Tabulae Anatomicae Sex. Six Anatomical Tables of Andreas Vesalius. London: Privately printed for Sir William Stirling-Maxwell, 1874.

Large folio (505 x 662 mm.), 14 leaves (including the first and last blank, the other 12 printed on the rectos only). Four leaves printed in red and black. Contemporary Continental marbled boards, purple roan spine. Lower joint split at top, corners and edges a little worn. otherwise a good copy.

£7500

A fine facsimile, chronologically the second edition, of Vesalius's first anatomical book, printed in a very small edition: "Of this gorgeously printed volume, as Stirling-Maxwell states, 30 copies were struck off, one on vellum, one on parchment, and 28 on paper" (Cushing). It comprises five preliminary leaves, a portrait of Vesalius, and facsimiles of the six separate leaves of anatomical drawings originally published in 1538. The original edition is known in a tiny handful of copies (Cushing positively located only two copies).

Cushing, *Bio-bibliography,* II.-2[B]. Cockx-Indestege, *Andreas Vesalius. a Belgian census,* 4 (records two copies, both presentation from Stirling-Maxwell, one in a similar binding to the present copy).

149. WEIDMANN, Johann Peter. De Necrosi Ossium. Francofurti ad Moenum [Frankfurt]: Impensis Andreaeis, 1793.

Folio, pp. (vi), 60, and 15 fine engraved plates by Cöntgen, "Graveur de la Cour et de l'Université de Mayence". Engraved vignette on title. Small stain in upper inner corner at ends, and in lower inner corner of plates. Original German marbled boards (rubbed on edges and with minor loss of surface on sides) with later speckled calf spine and corners, red morocco label.

£900

FIRST EDITION. An early monograph on bone necrosis, published the year before James Russell's treatise (G&M 4307), which was one of the first attempts at a complete description of the condition. Weidmann was professor of surgery and obstetrics at Mainz. His book is remarkable for the splendid suite of copperplates with which it is illustrated.

150. WELLS, William Charles. An Essay on Dew, and several appearances connected with it. London: Taylor and Hessey, 1814.

8vo, pp. (iii), 146. Contemporary blue half calf, spine gilt, gilt edges, marbled sides and endpapers. Title very slightly foxed and dust-soiled, spotting on endpapers, binding slightly worn at head of spine, but a good copy.

£600

FIRST EDITION. G&M 1604. The first correct theory of dew — a classic work in meteorology and in environmental and industrial medicine. “His researches on the subject were of major importance in the development of the science of ventilation, particularly in its relation to relative humidity and the influence of the latter on the comfort of the occupants of factories, ships, theatres, etc.” (G&M). Wells made a meticulous study of the formation of dew, and correctly interpreted his data, proving for the first time that dew is formed by air coming into contact with objects that have been cooled in a cloudless night sky.

“Wells’ *Essay* was greatly praised by Herschel, and it is indeed one of the few examples of the use of strict inductive logic in science” (Knight, *Natural Science Books in English*).

Printed in York

151. WINTRINGHAM, Clifton. Tractatus de Podagra, in quo de ultimis vasis et liquidis, et succo nutritio, tractatur. Eboraci [York]: Excudebat J. White, impensis F. Hildyard... 1714. [*Bound with:*]

A Treatise of Endemic Diseases wherein the different nature of airs, situations, soils, waters, diet, &c. are mechanically explain’d and accounted for. York: Printed by Grace White for Francis Hildyard,... 1718. [*Bound with:*]

An essay on Contagious Diseases: more particularly on the small-pox, measles, putrid, malignant, and pestilential fevers. York: Printed by Charles Bourne for Francis Hildyard,... 1721.

3 works in 1 volume, 8vo. Pp. xii, 164; xi, 123, (1); 2 leaves (half-title and title), pp. iii–vi, 63, (1). All title-pages within double-ruled borders, a few woodcut diagrams in [1] and [3]. Contemporary mottled calf, unlettered, double gilt rules on sides. Binding a little rubbed and upper joint cracked, but fine copies. Contemporary signature of Edm. Dring, and a price of two shillings, on front pastedown.

£1800

SOLE EDITIONS. The first three published works of a prominent York physician, all locally printed. Wintringham (1689–1748) had a successful practice in York for more than thirty-five years. He should not be confused with his son, Sir Clifton Wintringham (1710–1794), also a physician, born at York, who became physician to George III and physician-general to the forces. These three works are all rare, in particular the *Tractatus de Podagra* (not in Wellcome; 3 copies in NUC), and the *Essay on Contagious Diseases* (1 copy).

John White, who printed of the first work, was York’s chief printer from 1680 until his death in 1716. His widow, Grace White, took over the business and ran it until 1721. She printed the second of these works, which is one of only ten imprints by her recorded by the ESTC (1990), although she also founded and printed the *York Mercury* in 1718. She died in 1721, and was succeeded by Charles Bourne, her husband’s grandson. He died in August 1724, and his widow married Thomas Gent, perhaps the most famous of York’s early printers.

First European Treatise on Optics

152. WITELO. Peri optikes [in Greek], id est, De Natura, Ratione, & proiectione radiorum visus, luminum, colorum atque formarum, quam vulgo Perspectivam vocant, libri X. Norimbergae [Nuremberg]: apud Joann Petreium, 1551.

Folio, (iv) + 297 leaves. Title printed in red and black with a large woodcut vignette demonstrating optical problems, full-page woodcut of the arms of Charles V, Holy Roman Emperor and the dedicatee, and numerous woodcut diagrams in the text. 18th century Italian(?) half sheep (spine neatly restored), unlettered, marbled sides, some wormholes in the binding just entering the first

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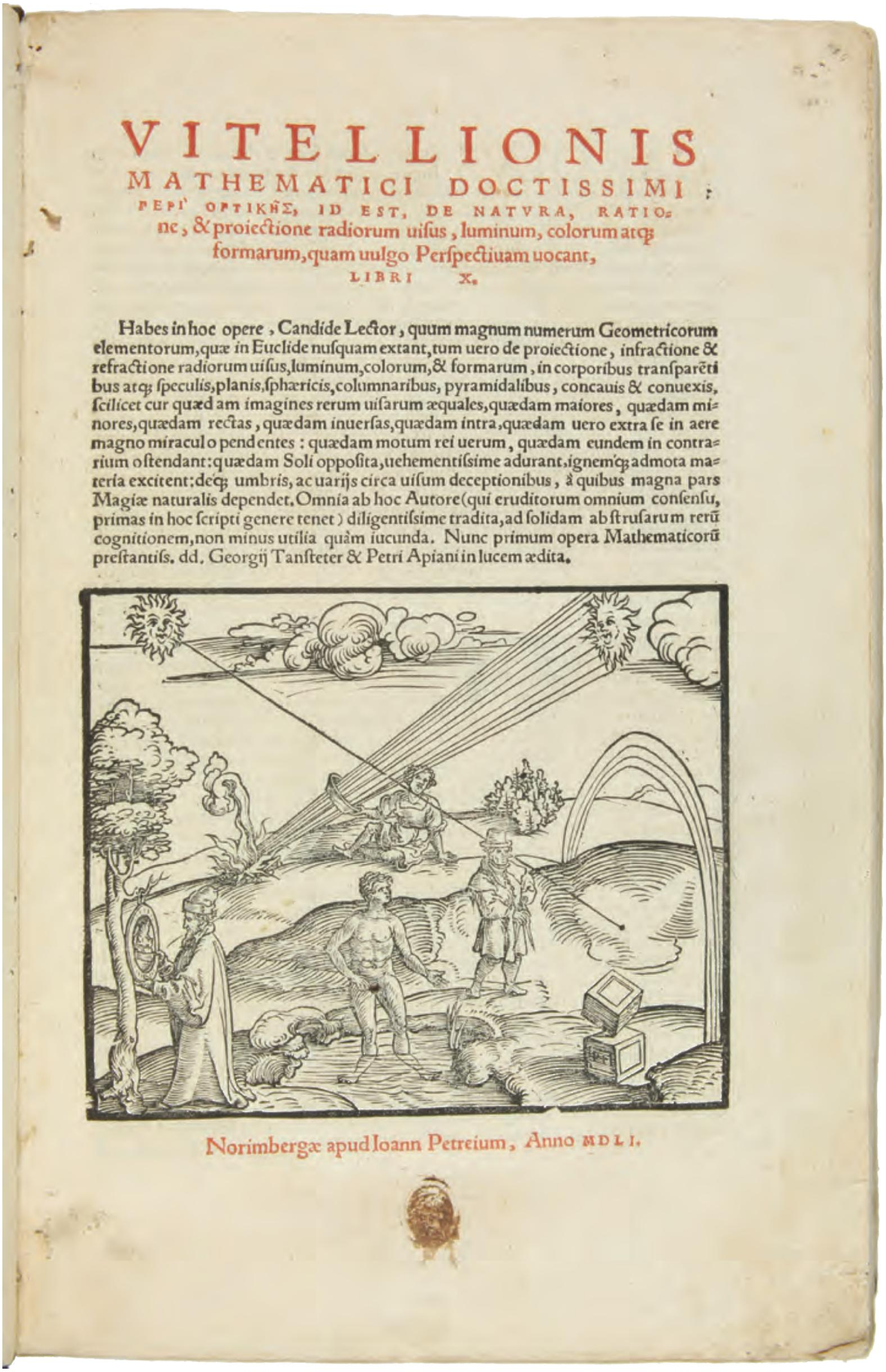


VITELLIONIS
MATHEMATICI DOCTISSIMI
ΠΕΡΙ' ΟΠΤΙΚΗ͂Σ, ID EST, DE NATVRA, RATIOne, & proiectione radiorum uiſus, luminum, colorum atq; formarum, quam uulgo Perſpectiuam uocant,
LIBRI X.

Habes in hoc opere, Candide Lector, quum magnum numerum Geometricorum elementorum, quæ in Euclide nuſquam extant, tum uero de proiectione, infractione & refractione radiorum uiſus, luminum, colorum, & formarum, in corporibus tranſparētibus atq; ſpeculis, planis, ſphæricis, columnaribus, pyramidalibus, concauis & conuexis, ſcilicet cur quædam imagines rerum uiſarum æquales, quædam maiores, quædam minores, quædam rectas, quædam inuerſas, quædam intra, quædam uero extra ſe in aere magno miraculo pendentes: quædam motum rei uerum, quædam eundem in contrarium oſtendant: quædam Soli oppoſita, uehementiſsime adurant, ignem'q; admota materia excitent: deq; umbris, ac uarijs circa uiſum deceptionibus, à quibus magna pars Magiæ naturalis dependet. Omnia ab hoc Autore (qui eruditorum omnium conſenſu, primas in hoc ſcripti genere tenet) diligentiſsime tradita, ad ſolidam abſtruſarum rerũ cognitionem, non minus utilia quàm iucunda. Nunc primum opera Mathematicorũ preſtantiſs. dd. Georgij Tanſteter & Petri Apiani in lucem ædita.

Norimbergæ apud Ioann Petreium, Anno MDLI.

152 Witelo

few leaves. Light browning (heavier in some gatherings) after aa1 which appears to be printed on different paper stock to the first 184 leaves, otherwise a nice copy. Early note of purchase for 15 *soldi* from one Bottero on front endpaper, small defaced library stamp in lower margin of title.

£20,000

Second edition, a reissue of the first of 1535 with the same collation, of the *Perspectiva* by the Polish friar and physicist Witelo who flourished in the second half of the thirteenth century. Considered the first textbook of optics written by a European, this was the work from which Renaissance Europe learned optics and the source for many optical texts that would appear subsequently. It influenced Leonardo da Vinci, Giambattista della Porta, Tycho Brahe, Galileo and Descartes, among others, and was the starting point of Kepler's study of the retinal image.

"While John Peckham's *Perspectiva communis* was medieval Europe's most used basic optics text, Witelo's *Perspectiva* was the advanced comprehensive equivalent… There were several reasons for its utility. First, though following Alhazen closely, Witelo imposed a Euclid-like structure of theorems or propositions, including enunciations, definitions and proofs. This made the text more accessible and didactic; significantly more useful as a textbook than Alhazen's *De Aspectibus*. Second, Witelo's *Perspectiva* included a long first book that introduced all the plane and three-dimensional geometry that would be required to study the subsequent text… Third, Witelo's *Perspectiva* included topics not covered in the *De Aspectibus*, including mirror foci, refraction by glass spheres, and atmospheric refraction" (DiLaura).

DiLaura, *Bibliotheca Optica*, 23. Sarton II, pp. 1027–1028. Thorndike II, pp, 454–456. King, *History of the telescope,* p. 26. For the first edition of 1535 see Stillwell, *The awakening interest in science*, 254. This edition is rarer than the first; it is not, for instance, in the NLM which has the first.

Dedicated to Edward Jenner

153. WOODVILLE, William. Observations on the Cow-Pox. London: Printed and sold by William Phillips… 1800.

8vo, 2 leaves (title and dedication to Edward Jenner) + 43 pages. Stitched in the original blue wrappers (a little soiled, spine missing), uncut (fore-edge of three leaves a little ragged).

£350

FIRST EDITION. The first large-scale trial of vaccination was published by Woodville in 1799 as the *Report of a Series of Inoculations for the Variolae Vaccinae or Cow Pox*. "Its case histories of two hundred vaccinations, most of which were subsequently tested by inoculation, did much to prove the efficacy of the new practice. However, the *Report* also cast the first doubts as to the merits of vaccination. Woodville noted that vaccination frequently produced smallpox-like eruptions which he believed might communicate smallpox. This undermined one of the principal advantages of the new practice over inoculation — patients did not have to be isolated. Woodville's observation sparked off a dispute between Woodville and Jenner. Jenner blamed Woodville's results on contaminated vaccine: Woodville responded with his *Observations on Cow-Pox* (1800) arguing that hybridization between cowpox and smallpox was impossible. Thereafter the dispute fizzled out, unresolved… Woodville continued to promote vaccination through his practice at the Smallpox Hospital, and later briefly held a post as vaccinator to the Royal Jennerian Society, a charity offering free vaccination" (*ODNB*).

LeFanu, p. 134 (dedications), 5[4].

154. WRIGHT, *Rev.* Thomas. The Formation and Management of Floated Meadows; with corrections of errors, found in the treatises of Messrs. Davis, Marshall, Boswell, Young, and Smith. On the subject of floating. To which is added, a dissertation on the size of farms. Northampton: Printed by Peter Mackenzie… And sold by Schatcherd and Letterman…London. 1808.

8vo, 2 leaves, pp. (5)–207, 3 folding engraved plates; 2 leaves, pp. 27, (1). Original blue boards and drab paper spine lettered in manuscript 'Wright's Irrigation', uncut. Plate 2 loose, joints cracked and paper spine worn at foot, but a very clean and fresh copy. Pencilled signature of John Buckby on front endpaper.

£400

continued...

FIRST EDITION of Thomas Wright's third book on the subject over a period of 19 years. Much of this provincially printed book is devoted to remarks on previous published writers on the subject, especially George Boswell of Dorset and William Smith the mineralogist and geologist.

The dissertation on the size of farms has a separate title (*Large Farms, recommended in a national view*… London: Printed for James Scatcherd… 1796) and pagination. It had previously been published in 1796 but remaining sheets were evidently added to this work.

Fussell, *More old English farming books*, p. 122. McDonald, *Agricultural writers,* p. 218.

The Wave Theory of Light

155. YOUNG, Thomas. The Bakerian Lecture: On the Theory of Light and Colours. [*And:*] An Account of some Cases of the Production of Colours, not hitherto described. [In:] The Philosophical Transactions of the Royal Society, parts 1 and 2 for the year 1802, pp. 12–48 and plate 1, and 387–397 respectively. London: Printed by W. Bulmer and Co… And sold by G. and W. Nicol… 1802.

2 parts in two volumes, 4to, pp. (vi), (ii), 212, 26, 4 engraved plates; pp. iv, (213)–535, (1) blank, (8), 13 plates. Original drab blue wrappers (spine of part 1 chipped, spine of part 2 slightly worn at ends), uncut and unopened. Preserved in a quarter blue morocco box. Paper slightly browned, otherwise fine copies in original state. Bookplates of H.F. Norman, M.D.; bookplates of David L. DiLaura.

£8500

FIRST PRINTINGS, and rare copies in the original wrappers, as issued. "The Bakerian Lecture delivered in November 1801 is an epoch-making contribution to the theory of light in all its phases. Hooke, Huygens and above all Newton had discussed the nature of light in the seventeenth century. Huygens propounded the wave theory in 1690, whereas Newton was predominantly in favour of a corpuscular theory…" (*PMM*). Young, however, proposed and demonstrated a theory that 'radiant light consists of undulations of the luminous ether', that is, a wave theory of light.

In "An account of some cases of the production of colours", Young opens with the clear statement of what would come to be known as Young's interference principle, giving definite evidence for the wave theory of light. He then describes an experiment he performed, later known as the 'double slit' experiment, that has been called most beautiful experiment in physics. It indicated that light consists of waves, as the distribution of brightness can be explained by the alternately additive and subtractive interference of wavefronts. "…Young calculated and reported the wavelength and frequency associated with prismatic colours. They are remarkably accurate" (DiLaura).

Printing and the Mind of Man 259. Dibner 152. G&M 1488 (first paper). DiLaura, *Bibliotheca Opticoria*, 593. Norman catalogue 2275 and 2276 (these copies).

Unrecorded Issue

156 Zacutus

156. ZACUTUS LUSITANUS. The Wonderful Practice of Physick…in which the admirable, new, rare, monstrous and strange examples, are diligently propounded, about the hidden causes, signs, events, and cures of diseases. Published, by William Rand… Nich. Culpeper… And, Abdiah Cole… London: Printed by Peter Cole, printer and bookseller… 1666.

continued...

Small 8vo, 1 leaf, pp. 422, (35), 1 leaf (longitudinal title, verso blank). Title within typographical border, one woodcut in the text. Title cut close on fore-edge and repaired from behind with slight loss to border in two places, lower inner corner repaired with loss of border and 'L' in London, short tear in lower margin, first few leaves lightly browned, small hole in Dd3 with loss of a few letters, upper margin cut close in places but lower margin with some uncut edges. Modern quarter calf and marbled sides. Early signature of Edward Houndle on title-page.

£1600

FIRST EDITION IN ENGLISH, second issue (see below), of the *Praxis Medica Admiranda* of the Portuguese physician Abraham Zacuth (1575–1642), better known as Zacutus Lusitanus. The first edition of 1634 was published in Amsterdam, to where Zacutus fled after the Jews were expelled from Portugal in 1625. The book is a selection of rare cases of every conceivable sort, including magic, mystic and spagiric medicine (ESTC). It begins with diseases of the head in Book I, Book II is on the abdomen and genitals, and Book III is on fevers and various diseases, including a 70-page appendix at the end headed "Various Observations concerning Certain Rare Diseases". This part includes a wide variety of cases, including several of professional incompetence, ignorance or negligence.

An apparently unrecorded issue. The first edition in English, and Zacutus's only work to appear in English, was published the year before. It has exactly the same title and imprint, but a different date (1665) and collation, with 4 preliminary leaves (title, and 3 leaves of advertisements signed a1–a3) and no longitudinal title. It is not in Wing or Early English Books Online. The present issue has only one preliminary leaf (the title) which is on a stub and is possibly a cancel; the three advertisement leaves may be lacking or may have been omitted from this issue. ESTC records 3 [i.e. 2] copies of the 1665 issue, 1 at the National Library of Wales and 1 at the RCP Edinburgh (imperfect), but does not record an issue dated 1666.

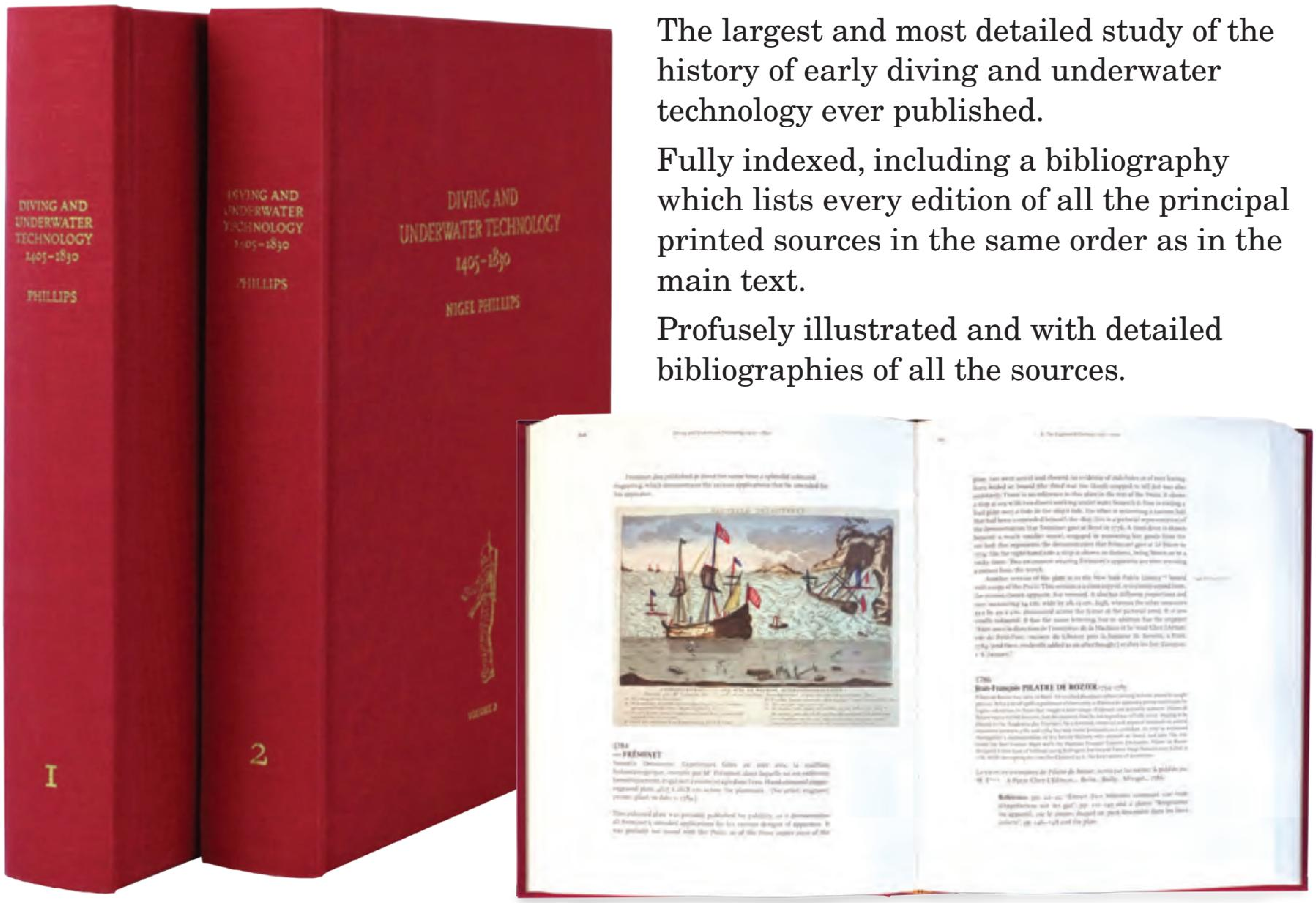
157. [**ZANON, Antonio.**] Della Marna e di alcuni altri fossili atti a render fertili le terre. In Venezia: Appresso Modesto Fenzo, 1768.

4to, 240 pages. Woodcut ornament on title, woodcut headpiece and initials. Near-contemporary vellum, sides faintly ruled in blue, blue morocco label (faded) on spine, marbled endpapers. Binding a little marked otherwise a clean and large copy. Upper cover lettered in gilt 'Board of Agriculture 1801' and with the later stamp of the Ministry of Agriculture on verso of title.

£450

FIRST EDITION. On the use of marl and other sources of lime such as fossils for use as fertiliser. Antonio Zanon (1696–1770), agronomist and economist, was the author of a dozen works on agriculture and related subjects. He was one of the promoters of the first agricultural academy in mainland Italy, the Società d'Agricoltura Pratica in Udine, which was followed within a few years by other similar academies in most of the main cities.

Diving and Underwater Technology 1405–1830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¶ Conſiluum clariſſimi doctoris dñi Petri de tauſignano pro peſte euitanda.

¶ In nomine Ieſu xp̄i mundi creatoris Amen. Incipit tractatus de obſeruanda vita pro preſeruatione ſanitatis tempore peſtilentie.

Cum omne animal per inſtinctum nature conetur defendere corpus ſuū: ⁊ prolongare vitam. Homo maxie q̄ p̄ualet oībꝰ alijs aīalibus per rōnem ⁊ intellectū quibꝰ dotatus eſt: dꝫ ſe fatigare ad ꝓlongationē ⁊ ꝯſerautionē ſuiip̄iꝰ. Ad hoc vt ip̄e poſſit oꝑari aliquē fructū virtutis. Qui ſit nutrimētū ſibi ⁊ illis qui ſequunt̄ politice. Et ideo clementiſſime dñe qui digne appellaris pijſſimus: ſum diſpoſitus reducere hūc tractatū in tali forma. Quem ego Petrus de tauſignano phiſicus mandante ſereniſſimo p̄cipe Galeazo comite virtutum ad hec vt fiat conſeruatio tue vite que nō ſolū eſt vtilis tibi: ſed etiam illis qui viuunt ſub tua ſaluberrima fronde compilaui.

¶ Primum capitulum.

Galienus in libro de ingenio ſanitatis primo circa finē dicit: ꝙ nos decet nō habere negligentiā in complemēto ipſiꝰ ſanitatis: ideo eſt magne ꝑfectionis in iſto tp̄e habere aliq̄d cōſilium cōtra vires peſtilētiales demōſtrando ingeniū maxime illoꝝ a quibus depēdet ſalus ⁊ vtilitas multaꝝ gentiū que virtuoſe recte ab illis ſunt.

¶ De rebus demonſtrandis in hoc opere.

Quatuor ſunt.n.res p̄icipaliter demonſtrāde: ⁊ prima eſt quot ſūt cāe peſtilētiales: ⁊ que res ſit peſtilētia: ⁊ que ſūt īfirmitates peſtilētiales. Secūda eſt regimē ꝓuidēdo p̄ſeruatione ꝙ ſcꝫ regimē reperit̄ circa ſex res nō naturales: ⁊ circa aliquas medicinas. Tertia ē in remouendo aliquas q̄ōnes que cōiter fiūt. Quarta eſt ad manifeſtādū regimē curatiōis illoꝝ qui ſūt īfirmi morbo peſtilētiali. Ad declarationē prime ꝑtis eſt ſciendū ꝙ ad peſtilentiā concurrunt.iiij. res. Prima eſt diſpoſitio īfirmi. Scd̄a eſt forti-

Quantū ad primā cām diſpoſitiōis īfirmi: dico ꝙ ipſa eſt p̄icipaliſſima cā corruptiōis ⁊ īfirmitatis: q2 oꝑationes rerū actiuaꝝ nō poſſūt generare ſe niſi in rebus aptis ⁊ diſpoſitis ad recipiendū ipſaꝝ actionē: vt dicit Ariſto.ij.de aīa. ⁊ Gali.i li.de differētijs febriū: caplo de febre peſtilētiali: ꝙ nullū agens īducit effectū aliquē niſi ex diſpoſitiōe paſſi. ⁊ Auicē.iiij.cañ.fen.primo cap̄.quarti tractatus: dicit ꝙ corꝑa diſpoſita ad recipiendū talem actionē ſūt vtētes nimio coitu ⁊ nimiū comedentes: ⁊ habētes poros latos: ⁊ ſilr̄ corꝑa que ſunt ꝯſimilis qualitatis qualitati aeris corrupti vt ſūt corꝑa repleta ſuꝑfluitatibꝰ. Et ideo Gal.lib.j.cap̄.v.de differētijs febriū dicit: ꝙ ē neceſſe tp̄e peſtis deſiccare corꝑa humida: ⁊ ea deſiccata cōſeruare: ⁊ illos qui ſuꝑfluitatibus ſūt repleti euacuare: ⁊ oppilatiōes aperire. ⁊ parū īferius dicit: ꝙ ille qui temꝑate exercet corpus ſuū ⁊ cibis tēperatis vtitur: omnino nō eſt paſſibilis: q2 in eo nō eſt diſpoſitio infirmitatis.

¶ De fortitudine agentis.

Secunda cā eſt fortitudo agentis: q2 aer in iſta actione dicit̄ operās. ⁊ duplici de cā pōt dici operans. Prima q2 corꝑa paſſibilia debite applicant̄ ipſi: ⁊ indebite tangit nos intus: ⁊ extra per introitū pororū.

¶ De contactu.

Tertia eſt cōtactus: q2 in iſto tp̄e eſt mala aeris ꝓprietas nō ſolū ꝑ qualitatem: ſed ꝑ operationē modi ſuppoſiti: ⁊ iſta cauſa eſt fortior prima. Quia vbi materia reꝑit̄ diſpoſita īducit̄ effectus. vbi aūt nō ē diſpoſitū ad talē effectum introducēdum non: vt habetur.viij.phi. ⁊ a Galieno primo de interioribus.

¶ De loco peſtifero.

Quarta eſt morari in loco peſtilētioſo q2 aer cōtinuo dimittit de ſua mala ꝓprietate: ⁊ ſic diſponit corꝑa ad corruptōeꝫ.

¶ De cauſis proprietatis peſtilentie.

Quia aer nos cōſeruat eſt videnduꝫ de cāis ꝓprietatis peſtilētie. Et dico ꝙ cāe ſunt duplices. pria ē vl'is ⁊ remota: que ē diſpoſitio aduenīēs a formis ⁊ imaginibus celi. Quo habēt neceſſario illud cuiꝰ aduētus a medico ignorat̄. Que diſpoſitiōes faciūt corrumpere aquā: ⁊ adhuc ꝓducūt corruptiones putrefaciētes in vi-